

Board of Education Regular Meeting

Wednesday, May 2, 2018 7:00 PM

Auditorium, 129 Church Street, Bristol, CT 06010

1. **CALL TO ORDER/NATIONAL ANTHEM/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE**

2. **STAFF AND STUDENT RECOGNITION**

2.1. Staff Achievement Award Recipients 2018

2.2. CABE Student Leadership Awards

3. **APPROVAL OF MINUTES - April 4, 2018 Regular Meeting**

4. **COMMITTEE REPORTS**

Presenter:
Commissioners

5. **CHAIRMAN REPORT**

6. **STUDENT REPRESENTATIVE REPORTS**

7. **SUPERINTENDENT REPORT**

8. **CONSENT AGENDA**

8.1. Personnel

8.1.a. Administrator Hire

8.1.b. Teacher Retirements

8.1.c. New Teacher Hire - Effective April 23, 2018

8.1.d. Coaching Appointments

8.2. Policy Affirmations

9. **PUBLIC COMMENT**

10. **DELIBERATED ITEMS/DISTRICT LEADERSHIP TEAM REPORTS**

10.1. Authorized Signatory for the Bristol Board of Education - Assistant Superintendent

Presenter: Sue Moeau

10.2. Quarterly Enrollment Numbers

Presenter: Sam Galloway

10.3. Board of Education approval of Ed Spec for the BCHS Underground Storage Tank

Presenter: Sue Moreau

10.4. Board of Education approval of Ed Spec for the BEHS Underground Storage Tank

Presenter: Sue Moreau

10.5. CEP APPROVAL

Presenter: Sue Moreau

11. **CURRICULUM REVISION**

11.1. AP Computer Science Curriculum - Second Reading

Presenter: Lisa Bernabe

11.2. AP U.S. Government and Politics Curriculum - Second Reading

Presenter: Amy Bastiaanse

11.3. AP Research Curriculum - Second Reading

Presenter: Amy

11.4. AP Seminar Curriculum - Second Reading **Presenter:** Amy Bastiaanse
Bastiaanse

12. TEXTBOOK RECOMMENDATION

12.1. AP Computer Science Textbook
Recommendation - First Reading

12.2. AP Environmental Science Textbook
Adoption - First Reading

12.3. A.P. U.S. Government and Politics
Textbook Recommendation - First Reading

12.4. AP Research Textbook Recommendation -
First Reading

12.5. AP Seminar Textbook Recommendation - **Presenter:** Amy
First Reading Bastiaanse

12.6. Information Processing I Textbook
Recommendation - First Reading

13. POLICY REVISION

13.1. Policy 5117.4 - Intra-district Transfer -
Revised

13.2. Policy 5117.5 - School Attendance Areas -
Racial Balance - Revised

13.3. Policy and Regulation 5118.1 - Homeless
Students

13.4. Policy and Regulation 5125- Student
Records and Confidentiality - Revised

13.5. Policy and Regulation 5131.111 - Video
Surveillance - Revised

13.6. Policy 5145.12 - Search and Seizure -
Revised

13.7. Policy and Regulation 6146 - Graduation
Requirements - Revised

13.8. Policy and Regulation - 6153 - Field
Trips - Revised

14. NEW BUSINESS

15. INFORMATION

16. LIAISON REPORTS

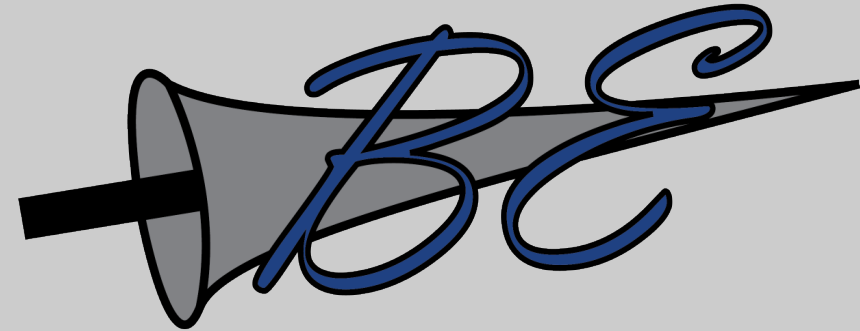
**17. VOTE TO CONVENE INTO EXECUTIVE SESSION for the
purpose of discussing:**

**18. RECONVENE INTO PUBLIC SESSION to take any votes
on items discussed in Executive Session**

19. ADJOURNMENT



2017-2018 School Year Questionnaire



2017-2018 School Year Questionnaire

Hi! My name is Madison Fostervold and I'm a senior this year. I'm not sure if everyone knows this but I am Bristol Eastern's Board of Education Student Representative. I'm giving this survey to determine and report about our school year as a whole and need YOUR input! This survey is 100% anonymous so please be as honest as you can!

* Required

1. What grade are you in? *

Mark only one oval.

- Freshman
 Sophomore
 Junior
 Senior

2. What is your gender? *

Mark only one oval.

- Female
 Male
 Prefer not to say
 Other: _____

3. On a scale of 1 to 10, how has your school year been? *

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Awesome!

4. What was the best part of this year? *

Check all that apply.

- Homecoming
 Teachers
 Friends/students
 Clubs
 Other: _____

5. Were you encouraged to do your best this year? *

Mark only one oval.

- Yes
 No
 Sometimes

6. Were you able to find someone in the school that you could talk to and trust? *

Mark only one oval.

- Yes
 No

7. Were you able to find an after school activity (clubs, groups, sports) that fit your interests? *

Mark only one oval.

- Yes
 No

8. If you answered no to the last question, why not?

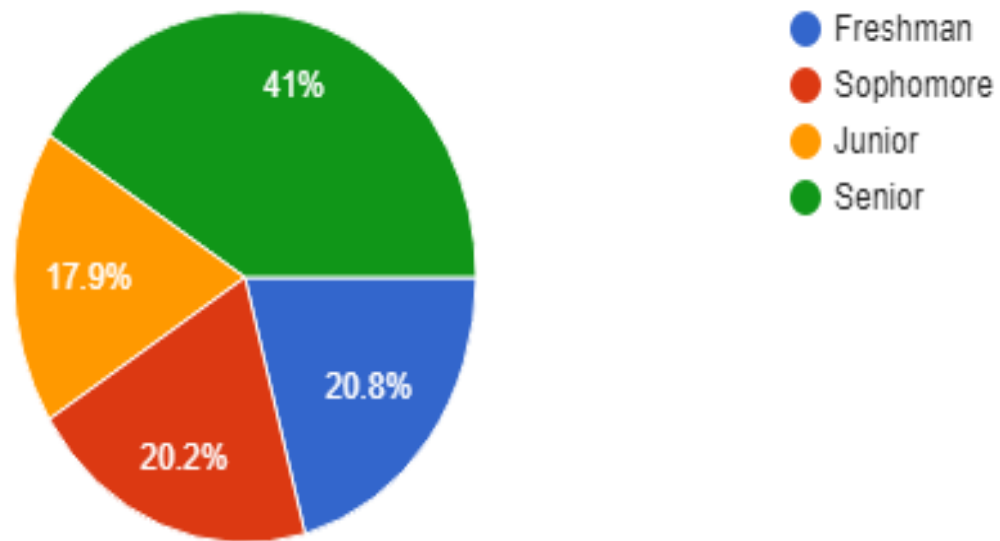
Mark only one oval.

- I was not aware of a club that I would like.
 The club or sport I would have liked was not an option.
 I did not want to join anything this year.
 Other: _____

9. Is there anything that you would like to add to completely summarize your school year so far?

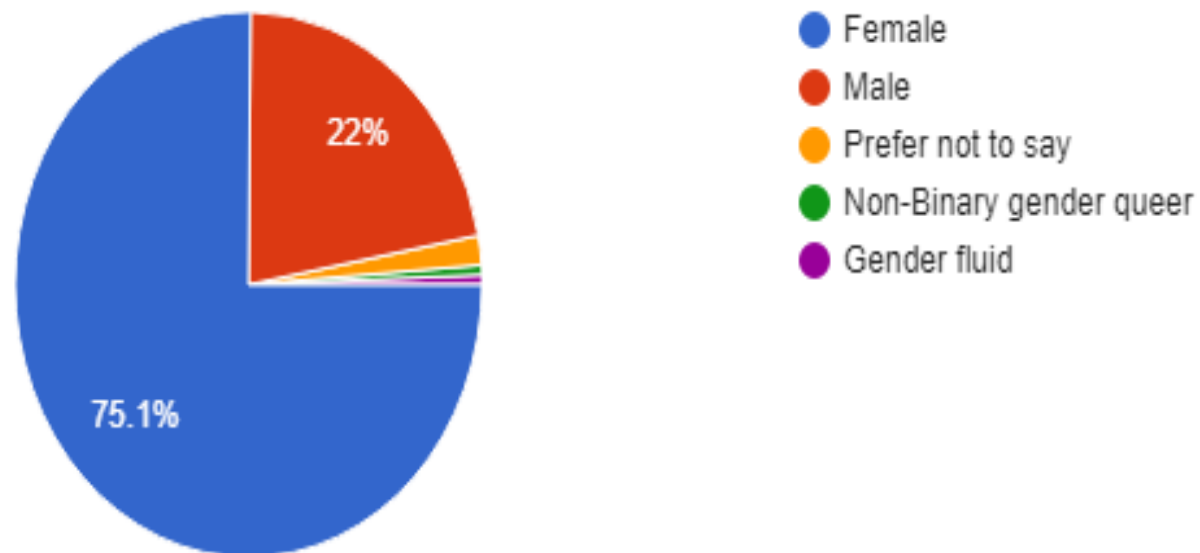
What grade are you in?

173 responses



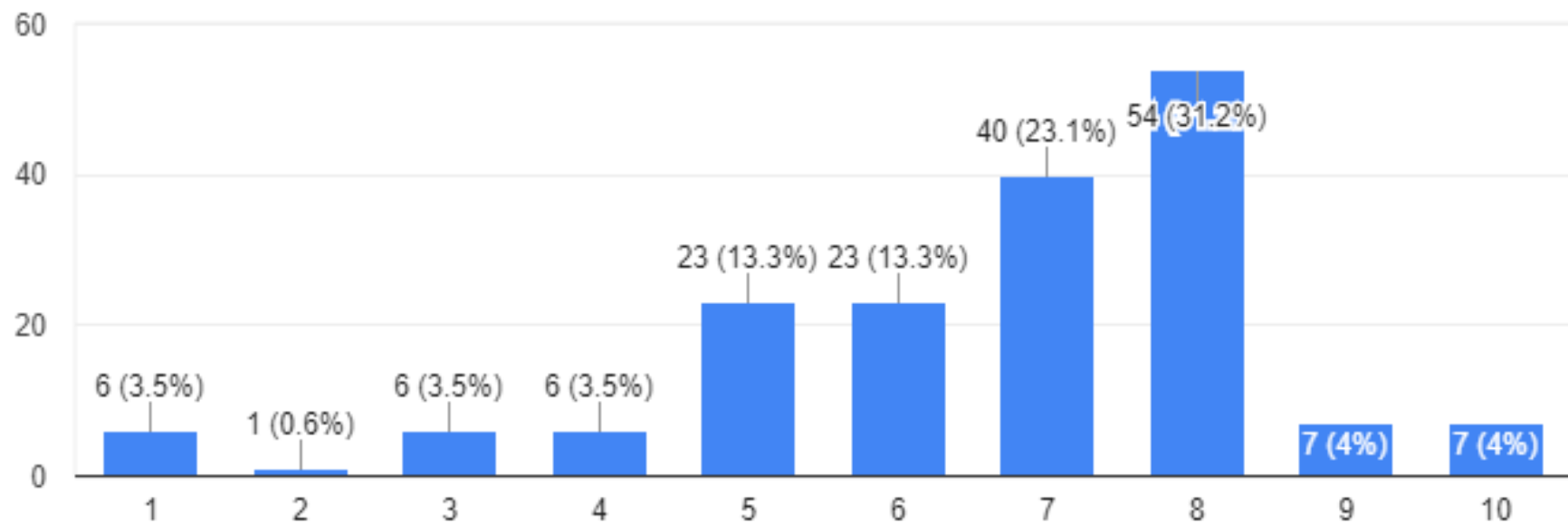
What is your gender?

173 responses



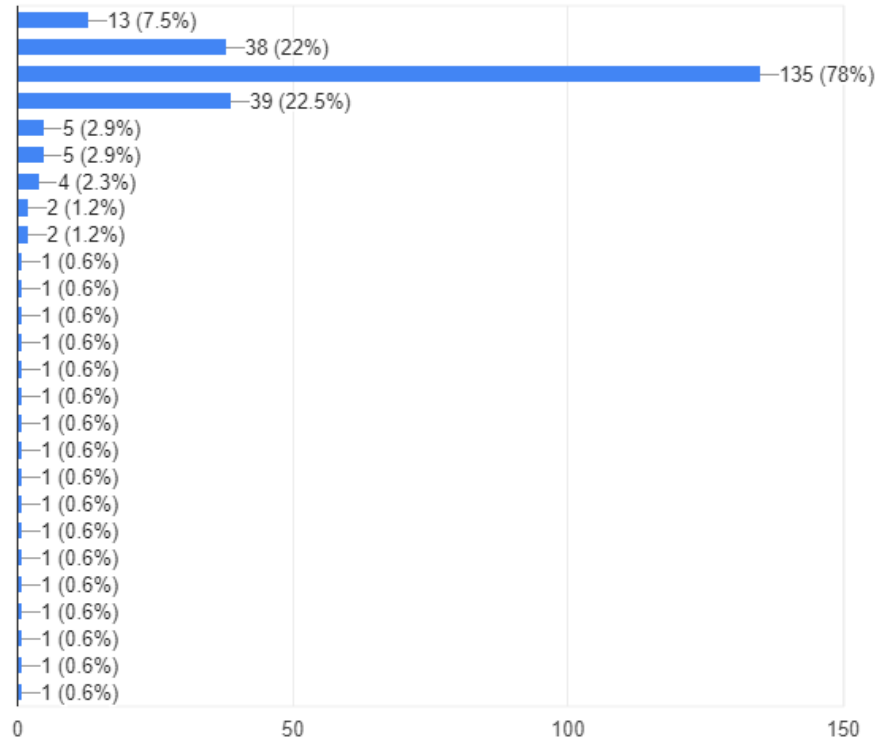
On a scale of 1 to 10, how has your school year been?

173 responses



What was the best part of this year?

173 responses



For this question students were asked to select the best part of their year out of Homecoming, teachers, friends/students, clubs, and were also given the option to write something else down.

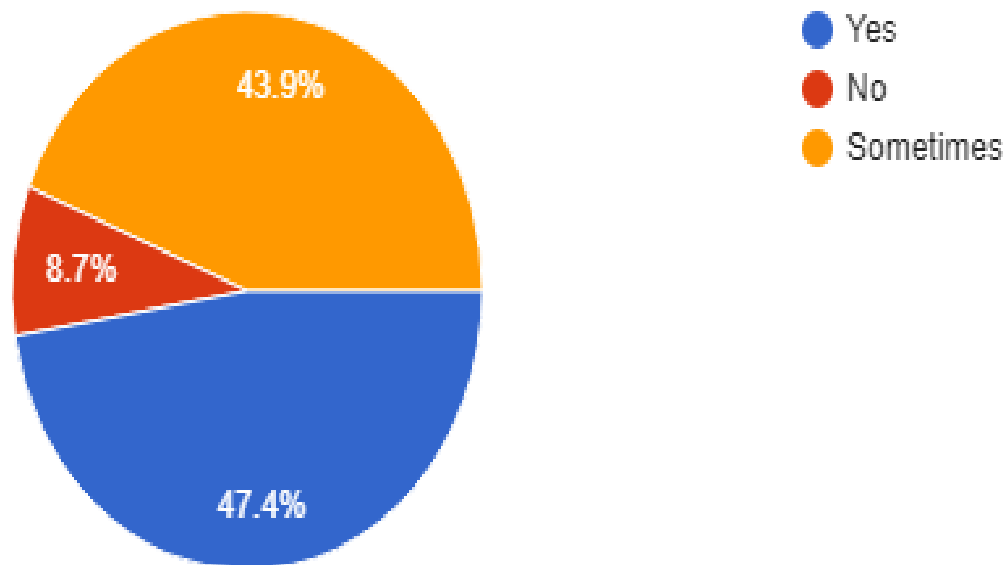
What was the best part of this year?

Some examples of what students chose to write in...

- “Sports”
- “Pep rally”
- “Going to the football games and spirit week”
- “Bristol Technical Ed”
- “Theater”
- “After school volunteering”
- “Prom”

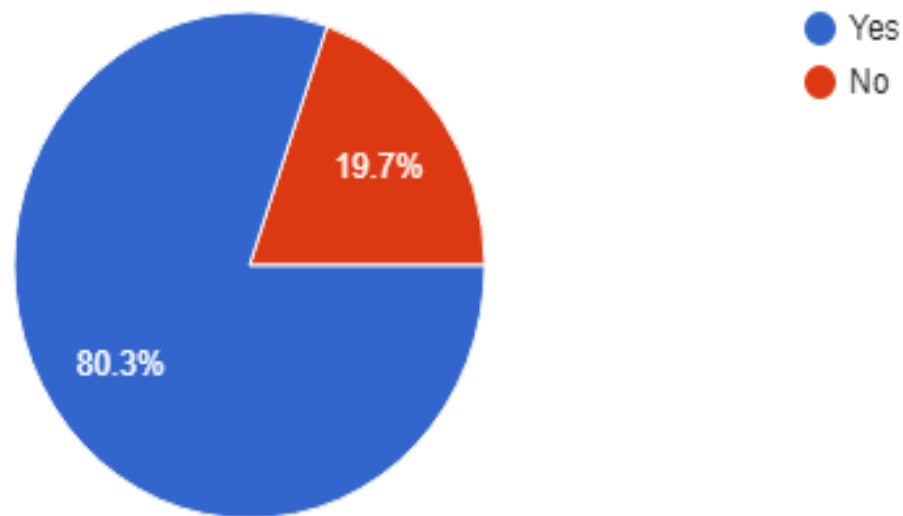
Were you encouraged to do your best this year?

173 responses



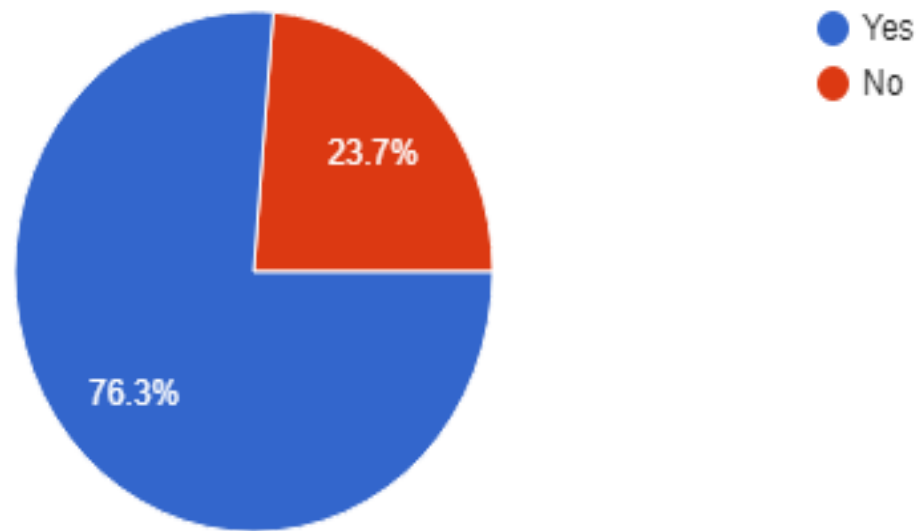
Were you able to find someone in the school that you could talk to and trust?

173 responses



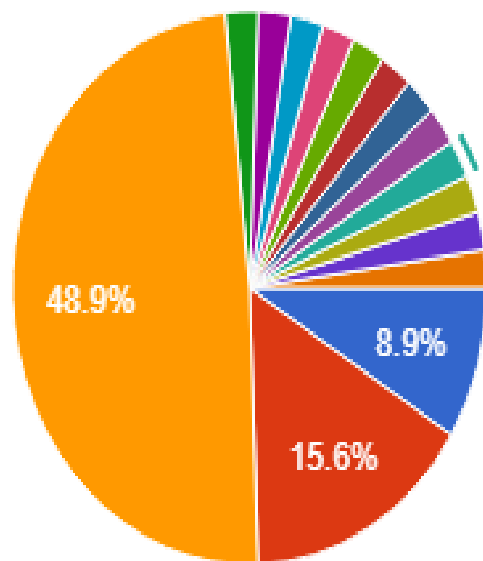
Were you able to find an after school activity (clubs, groups, sports) that fit your interests?

173 responses



If you answered no to the last question, why not?

45 responses

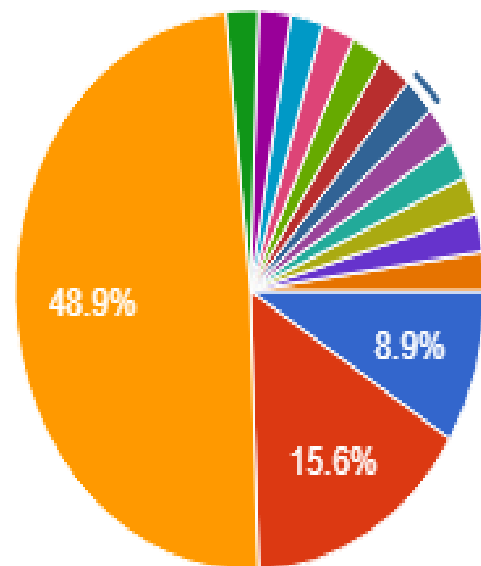


- I was not aware of a club that I would like
- The club or sport I would have liked
- I did not want to join anything this year
- Outside activities
- I answered yes
- The club i was in no longer exists (or was not what I wanted)
- N/A
- I was minding my buisness

▲ 1/2 ▼

If you answered no to the last question, why not?

45 responses



- I have no time because I need to keep up with all of my school work.
- Too busy with work.
- I said yes lol
- I said yes
- because there isn't a lot to offer..
- social anxiety hold me back
- I didn't enjoy the club I joined and I...

Is there anything that you would like to add to completely summarize your school year so far?

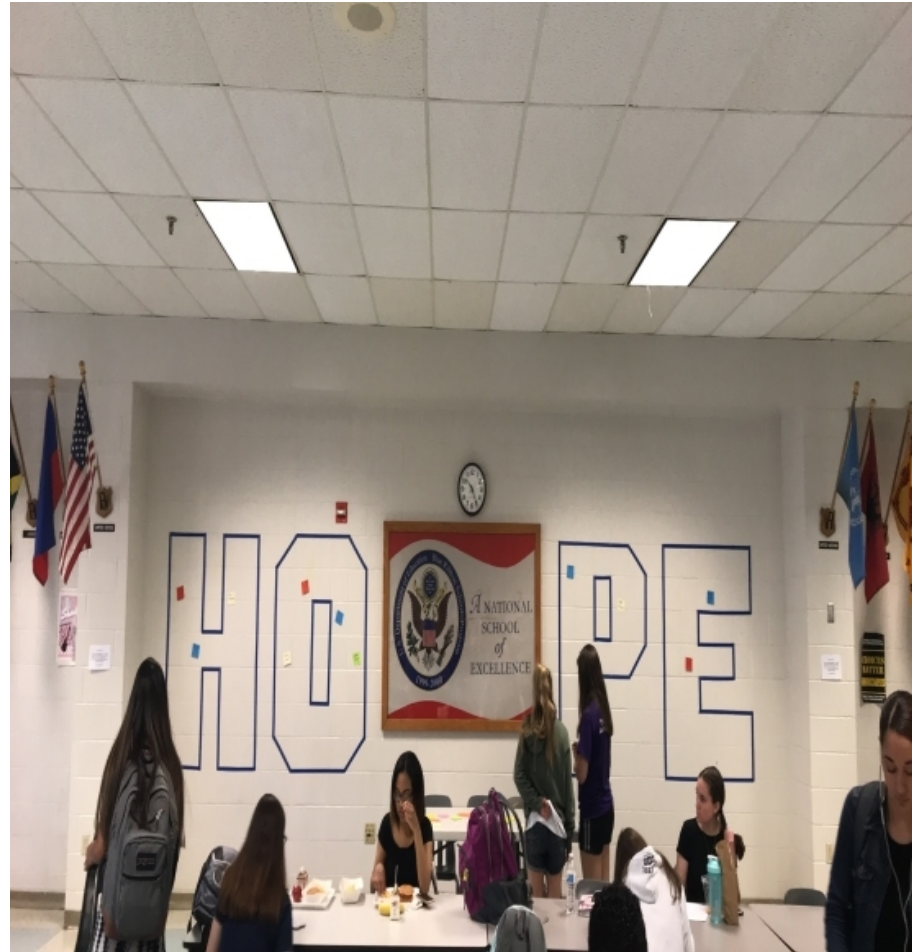
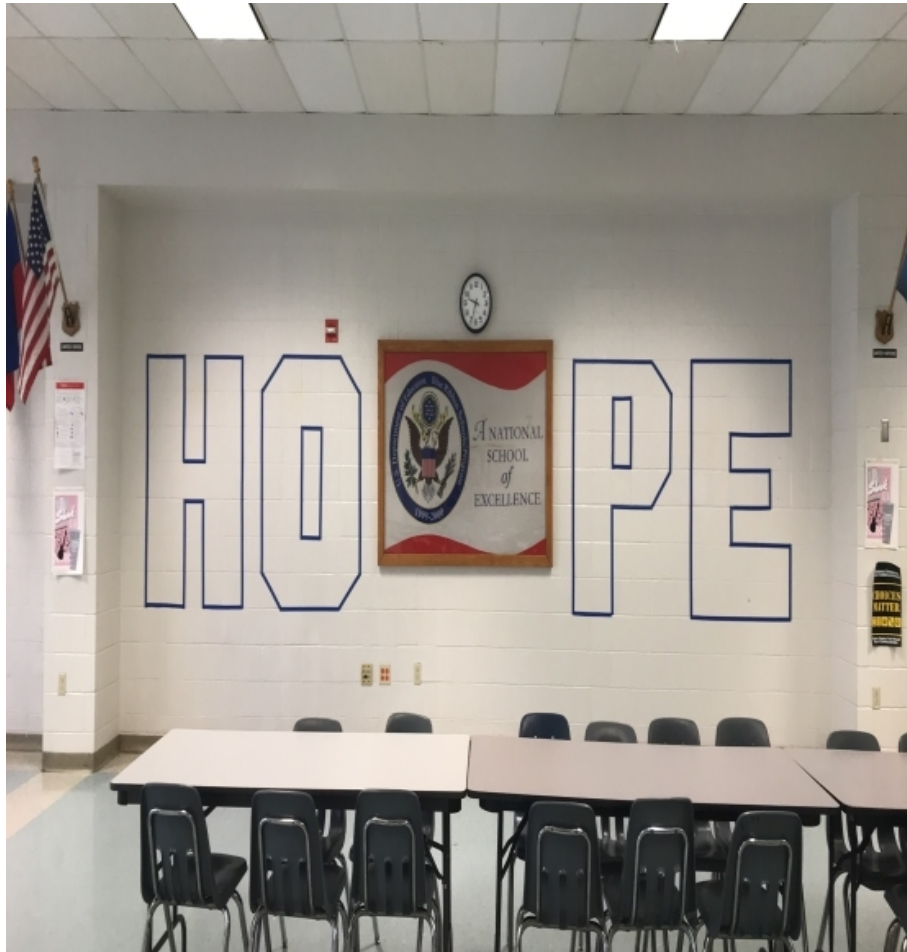
This was an open ended question and here are some responses:

- “I enjoyed my first year in high school”
- “Stressful but looking back it helped me grow and accomplish things I didn’t realize I could.”
- “Our school deserves to be acknowledged for all the stuff we do for our students, staff, and community. Blood drives, car washes, relay, BE clean awareness, mindfulness, teaching elementary students science, and more! There are many opportunities out there, meant for every single student to enjoy, and I believe BE has achieved that.”

Is there anything that you would like to add to completely summarize your school year so far?

There were a lot of responses!

- “Mini activities like the Lancer Games and the basketball shooting was pretty awesome. Something to have as memory and laugh alongside friends.”
- “It’s been good, I just wish that I did not have as many long term substitute teachers as I had...”
- “We need more enthusiastic teachers who are excited about their job and the students...”
- “Can’t wait to graduate.”
- “...adding Lancer Games really brought the student body together for a fun and relaxing time right before break...”



BRISTOL PUBLIC SCHOOLS

ENROLLMENT FIGURES
2017 - 2018Kdg = 22
Gr. 1 - 2 = 23
Gr. 3 - 5 = 28

On April 10 2018

Elem.School	Pre-K	Kgn.	1	2	3	4	5	Total	Total Prev. Yr.	DIFF.
Edgewood		21	16	17	18	22	28			
		22	15	16	18	22	27			
			16	17	19					
Total	0	43	47	50	55	44	55	294	320	-26
Hubbell	16	20	17	19	25	22	21			
	15	20	19	20	26	20	21			
	13	20	18	19	25	22	20			
	14									
Total	58	60	54	58	76	64	62	432	453	-21
Greene-Hills	16	21	22	18	24	26	24			
	13	21	23	19	25	25	24			
		18	23	17	23	26	24			
		21	23	19	23	25	24			
		21	23	19						
Total	29	102	114	92	95	102	96	630	610	20
Ivy Drive	16	22	19	21	23	21	26			
	16	21	22	22	22	20	27			
		21	17	21		22	27			
Total	32	64	58	64	45	63	80	406	410	-4
Mt. View	16	21	20	19	18	27	22			
	11	21	19	18	18	26	21			
		19	21	20	19		22			
Total	27	61	60	57	55	53	65	378	369	9
South Side	14	22	22	22	24	26	22			
	15	21	22	23	26	24	20			
	12	22	23	24	26	24	20			
	11	21					19			
Total	52	86	67	69	76	74	81	505	484	21

Kdg = 22
 Gr. 1 - 2 = 23
 Gr. 3 - 5 = 28

Elem.School	Pre-K	Kgn.	1	2	3	4	5	Total	Total Prev. Yr.	DIFF.
Stafford		20	18	20	24	20	21			
		18	17	21	24	21	21			
		19	19	19	25	19	23			
			18	19						
Total	0	57	72	79	73	60	65	406	442	-36
West Bristol		17	23	20	23	26	21			
		21	23	20	23	27	22			
		22	23	20	23	27	22			
		20	23	21	24	27	22			
		18		21			22			
Total	0	98	92	102	93	107	109	601	612	-11
BECC	10									
	10									
	12									
	7									
	6									
	12									
	11									
	12									
	13									
	12									
	10									
	15									
Speech	20									
Total	150	0	0	0	0	0	0	150	132	18
TOTALS	348	571	564	571	568	567	613	3802	3832	-30
Total K - 5		571	564	571	568	567	613	3454	3483	-29

Projections	
P. Prowda	575 554 583 552 577 613 3454 0

Elementary Class Size Averages

Pre-K	Kgn.	1	2	3	4	5	K-5
12.9	20.4	20.1	19.7	22.7	23.6	22.7	21.5

Range							
2017	7-16	17-22	15-23	16-24	18-26	19-27	19-28

excludes
Speech

ENROLLMENT FIGURES

ENROLLMENT FIGURES
2017 - 2018

Kdg = 22
Gr. 1 - 2 = 23
Gr. 3 - 5 = 28

Kdg = 22
 Gr. 1 - 2 = 23
 Gr. 3 - 5 = 28

Mid. School	6	7	8	Total	Total Prev. Yr.	DIFF.
Chippens Hill	268	285	245	798	783	15
Greene-Hills	92	114	97	303	315	-12
Northeast	158	178	159	495	469	26
West Bristol	107	111	102	320	287	33
Total	625	688	603	1916	1854	62

Projections						
P. Prowda	601	669	587	1857		59

High School	9	10	11	12	Total	Total Prev. Yr.	DIFF.
BCHS	293	266	297	274	1130	1117	13
BEHS	294	258	274	286	1112	1133	-21
BPA	11	13	16	9	49	47	2
Total	598	537	587	569	2291	2297	-6
Community/Vocational Program					13	12	1
					2304	2309	-5

Projections							
P. Prowda	645	519	597	560	2321		-30

	Number Attending	Total to Date	Total Prev. Yr.	DIFF.
Total PreK-5		3802	3832	-30
Total Gr. 6-8		1916	1854	62
Total Gr. 9-12		2304	2309	-5
Sub Total		8022	7995	27
Special Education Program: Citywide	ASEP	17	22	-5
	Sub Total	8039	8017	22
Bristol Students Enrolled But Not Attending a Bristol Public School and Counted in the State Report	Spec. Ed. Out Pl. Priv.	117	107	10
	BTEC	33	30	3
	Sub Total	150	137	13
	Gr. Total Enrolled	8189	8154	35
Magnet Students		391	321	70

COMPUTER SCIENCE A

Course Description

EFFECTIVE FALL 2014

AP Course Descriptions are updated regularly. Please visit AP Central® (apcentral.collegeboard.org) to determine whether a more recent Course Description PDF is available.

The College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of more than 5,900 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT[®] and the Advanced Placement Program[®]. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools.

For further information, visit www.collegeboard.org.

AP Equity and Access Policy

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

AP Course Descriptions

AP Course Descriptions are updated regularly. Please visit AP Central[®] (apcentral.collegeboard.org) to determine whether a more recent Course Description PDF is available.

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About the AP® Program

AP® enables students to pursue college-level studies while still in high school. Through more than 30 courses, each culminating in a rigorous exam, AP provides willing and academically prepared students with the opportunity to earn college credit, advanced placement, or both. Taking AP courses also demonstrates to college admission officers that students have sought out the most rigorous course work available to them.

Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. Talented and dedicated AP teachers help AP students in classrooms around the world develop and apply the content knowledge and skills they will need in college.

Each AP course concludes with a college-level assessment developed and scored by college and university faculty as well as experienced AP teachers. AP Exams are an essential part of the AP experience, enabling students to demonstrate their mastery of college-level course work. More than 90 percent of four-year colleges and universities in the United States grant students credit, placement, or both on the basis of successful AP Exam scores. Universities in more than 60 countries recognize AP Exam scores in the admission process and/or award credit and placement for qualifying scores. Visit www.collegeboard.org/ap/creditpolicy to view AP credit and placement policies at more than 1,000 colleges and universities.

Performing well on an AP Exam means more than just the successful completion of a course; it is a pathway to success in college. Research consistently shows that students who score a 3 or higher on AP Exams typically experience greater academic success in college and are more likely to graduate on time than other wise comparable non-AP peers. Additional AP studies are available at www.collegeboard.org/apresearchsummaries.

Offering AP Courses and Enrolling Students

This course description details the essential information required to understand the objectives and expectations of an AP course. The AP Program unequivocally supports the principle that each school develops and implements its own curriculum that will enable students to develop the content knowledge and skills described here.

Schools wishing to offer AP courses must participate in the AP Course Audit, a process through which AP teachers' syllabi are reviewed by college faculty. The AP Course Audit was created at the request of College Board members who sought a means for the College Board to provide teachers and administrators with clear guidelines on curricular and resource requirements for AP courses and to help colleges and universities validate courses marked "AP" on students' transcripts. This process ensures that AP teachers' syllabi meet or exceed the curricular and resource expectations that college and secondary school faculty have established for college-level courses. For more information on the AP Course Audit, visit www.collegeboard.org/apcourseaudit.

How AP Courses and Exams Are Developed

AP courses and exams are designed by committees of college faculty and expert AP teachers who ensure that each AP subject reflects and assesses college-level expectations. AP Development Committees define the scope and expectations of the course, articulating through a curriculum framework what students should know and be able to do upon completion of the AP course. Their work is informed by data collected from a range of colleges and universities to ensure that AP coursework reflects current scholarship and advances in the discipline. To find a list of each subject's current AP Development Committee members, please visit apcentral.collegeboard.org/developmentcommittees.

The AP Development Committees are also responsible for drawing clear and well-articulated connections between the AP course and AP Exam — work that includes designing and approving exam specifications and exam questions. The AP Exam development process is a multi-year endeavor; all AP Exams undergo extensive review, revision, piloting, and analysis to ensure that questions are high quality and fair, and that there is an appropriate spread of difficulty across the questions.

Throughout AP course and exam development, the College Board gathers feedback from various stakeholders in both secondary schools and higher education institutions. This feedback is carefully considered to ensure that AP courses and exams are able to provide students with a college-level learning experience and the opportunity to demonstrate their qualifications for advanced placement upon college entrance.

How AP Exams Are Scored

The exam scoring process, like the course and exam development process, relies on the expertise of both AP teachers and college faculty. While multiple-choice questions are scored by machine, the free-response questions are scored by thousands of college faculty and expert AP teachers at the annual AP Reading. AP Exam Readers are thoroughly trained, and their work is monitored throughout the Reading for fairness and consistency. In each subject, a highly respected college faculty member fills the role of Chief Reader, who, with the help of AP Readers in leadership positions, maintains the accuracy of the scoring standards. Scores on the free-response questions are weighted and combined with the weighted results of the computer-scored multiple-choice questions. These composite, weighted raw scores are converted into the reported AP Exam scores of 5, 4, 3, 2, and 1.

The score-setting process is both precise and labor intensive, involving numerous psychometric analyses of the results of a specific AP Exam in a specific year and of the particular group of students who took that exam.

College faculty are involved in every aspect of AP, from course and exam development to scoring and standards alignment. These faculty members ensure that the courses and exams meet colleges' expectations for content taught in comparable college courses. Based upon outcomes research and program evaluation, the American Council on Education (ACE) and the Advanced Placement Program recommend that colleges grant credit and/or placement to students with AP Exam scores of 3 and higher. The AP score of 3 is equivalent to grades of B-, C+, and C in the equivalent college course. However, colleges and universities set their own AP credit, advanced standing, and course placement policies based on their unique needs and objectives.

Score	Recommendation
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly qualified
1	No recommendation

Additional Resources

Visit apcentral.collegeboard.org for more information about the AP Program.

AP Computer Science A Course Description

Important Revisions to This Course Description

- New *AP Computer Science A Labs* can be found on the AP Computer Science home page, http://apcentral.collegeboard.com/apc/public/courses/teachers_corner/222163.html
- Lab Requirements and the new *AP Computer Science Labs*.
- Sample Search and Sort algorithms (Appendix C)

INTRODUCTION

Computer science embraces problem solving, hardware, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. As the study of computer science is evolving, the careful design of the AP Computer Science A course and exam continues to strive to engage a diverse student population, including female and underrepresented students, with the rigorous and rewarding concepts of computer science. Students who take the AP Computer Science A course and exam are well prepared to continue their study of computer science and its integration into a wide array of computing and STEM-related fields.

The AP Computer Science A curriculum provides resources, such as application-related labs, that connect with students with diverse interests, particularly female and underrepresented student populations. The course is engaging and underscores the importance of communicating solutions appropriately and in ways that are relevant to current societal needs. Thus, a well-designed, modern AP Computer Science A course can help address traditional issues of equity, access, and broadening participation in computing while providing a strong and engaging introduction to fundamental areas of the discipline.

The AP Computer Science A course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. For a listing of the topics addressed, see the Computer Science A topic outline on pages 8–10.

The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. Some colleges and universities may organize their curricula in alternative ways, so that the topics of the AP Computer Science A course are spread over several college courses, with other topics from computer science interspersed.

Colleges and universities offer a wide range of introductory computer science courses, so the outline of topics described here may not match any course exactly. The AP Computer Science A course is compatible with recommendations of the Association for Computing Machinery (ACM) and the Computer Society of the Institute of Electrical and Electronics Engineers (IEEE-CS) in several fundamental areas. ACM/IEEE-CS Knowledge Units represented in the AP Computer Science A course include fundamental data structures and algorithms, machine-level representation of data, object-oriented programming, basic type systems, algorithms and design, fundamental programming concepts, fundamental data structures, development methods, and social context. The AP Computer Science A course is compatible with the curriculum outlined in the Topics in Computer Science course of the Computer Science Teachers Association (CSTA).

The AP Computer Science A course can be offered by any secondary school that has faculty who possess the necessary expertise and have access to appropriate computing facilities. The course represents college-level achievement for which many colleges and universities grant advanced placement and credit. Placement and credit are granted by institutions in accordance with their own policies, not by the College Board or the AP Program.

THE COURSE

The AP Computer Science A course is an introductory course in computer science. The major theme of the course is problem solving. The topic outline on pages 8–10 summarizes the content required in the AP Computer Science A course.

Goals

The goals of the AP Computer Science A course are comparable to those in the introductory course for computer science majors offered in many college and university computer science departments. It is not expected that all students in the AP Computer Science A course will major in computer science at the university level. The AP Computer Science A course is intended to serve both as an introductory course for computer science majors and as a course for people who will major in other disciplines and want to be informed citizens in today's technological society.

The following goals apply to the AP Computer Science A course. Students should be able to:

- design, implement, and analyze solutions to problems.
- use and implement commonly used algorithms.
- use standard data structures.
- develop and select appropriate algorithms and data structures to solve new problems.
- write solutions fluently in an object-oriented paradigm.
- write, run, test, and debug solutions in the Java programming language, utilizing standard Java library classes and interfaces from the AP Java subset.

- read and understand programs consisting of several classes and interacting objects.
- read and understand a description of the design and development process leading to such a program. (Examples of such solutions can be found in the *AP Computer Science Labs*.)
- understand the ethical and social implications of computer use.

Computer Language

Because the discipline of computer science emphasizes problem solving, study of the discipline requires a mechanism to express potential solutions precisely and concisely. Since any natural language (e.g., English) allows inconsistencies and ambiguities, solutions in computer science require a communication medium more formal than a natural language. For this reason, the AP Computer Science A course requires that potential solutions of problems be written in the Java programming language. In addition to precision of expression, Java supports important elements of problem solving, including object-orientation, abstraction, and encapsulation. The use of Java also allows students to test potential solutions to problems by running programs.

Because the Java programming language is extensive with far more features than could be covered in a single introductory course, the AP Computer Science A Exam covers a subset of Java. The AP Java subset can be found in Appendix A.

Resources

Students should have access to a computer system that represents relatively recent technology. A school should ensure that each student has access to a computer for at least three hours a week; additional time is desirable. Student and instructor access to computers is important during class time, but additional time is essential for students to develop solutions to problems individually.

The computer system must allow students to create, edit, compile quickly, and execute Java programs comparable in size to those found in the *AP Computer Science Labs*. It is highly desirable that these computers provide student access to the Internet. It is essential that each computer science teacher has Internet access.

A school must ensure that each student has a college-level text for individual use inside and outside of the classroom. Schools are encouraged to provide copies of the lab materials for individual use.

Prerequisites

The assumed prerequisites for entering the AP Computer Science A course include knowledge of basic English and algebra. A student in the AP Computer Science A course should be comfortable with functions and the concepts found in the uses of function notation, such as $f(x) = x + 2$ and $f(x) = g(h(x))$. It is important that students and their advisers understand that any significant computer science course builds upon a foundation of mathematical reasoning that should be acquired before attempting such a course.

Teaching the Course

Teachers are expected to present a course comparable to that taught as the first course on the college level. The course emphasizes problem solving, procedural and data abstraction, object-oriented programming and design methodology, algorithms, and data structures. Teachers should be aware that the field of computer science is constantly evolving. Teachers should endeavor to keep current with changes in problem solving methodologies, the Java programming language, and pedagogy involving active learning. Some resources that may assist teachers in professional development are AP Computer Science workshops and summer institutes, the AP Teacher Community and AP Central. For more information on workshops, and released materials, teachers should visit the College Board's online home for AP Teachers (www.collegeboard.org).

TOPIC OUTLINE

Following is an outline of the major topics considered for the AP Computer Science A Exam. This outline is intended to define the scope of the course, but not the sequence.

I. Object-Oriented Program Design

The overall goal for designing a piece of software (a computer program) is to correctly solve the given problem. At the same time, this goal should encompass specifying and designing a program that is understandable, and can be adapted to changing circumstances. The design process needs to be based on a thorough understanding of the problem to be solved

A. Program and Class Design

1. Problem analysis
2. Data abstraction and encapsulation
3. Class specifications, interface specifications, relationships (“is-a,” “has-a”), and extension using inheritance
4. Code reuse
5. Data representation and algorithms
6. Functional decomposition

II. Program Implementation

Part of the problem-solving process is the statement of solutions in a precise form that invites review and analysis. The implementation of solutions in the Java programming language reinforces concepts, allows potential solutions to be tested, and encourages discussion of solutions and alternatives.

A. Implementation techniques

1. Top-down
2. Bottom-up
3. Object-oriented
4. Encapsulation and information hiding
5. Procedural abstraction

B. Programming constructs

1. Primitive types vs. reference types
2. Declaration
 - a. Constants
 - b. Variables
 - c. Methods and parameters
 - d. Classes
 - e. Interfaces
3. Text output using `System.out.print` and `System.out.println`
4. Control
 - a. Method call
 - b. Sequential execution
 - c. Conditional execution
 - d. Iteration
 - e. Recursion

5. Expression evaluation
 - a. Numeric expressions
 - b. String expressions
 - c. Boolean expressions, short-circuit evaluation, De Morgan's law
- C. Java library classes and interfaces included in the AP Java Subset

III. Program Analysis

The analysis of programs includes examining and testing programs to determine whether they correctly meet their specifications. It also includes the analysis of programs or algorithms in order to understand their time and space requirements when applied to different data sets.

- A. Testing
 1. Development of appropriate test cases, including boundary cases
 2. Unit testing
 3. Integration testing
- B. Debugging
 1. Error categories: compile-time, run-time, logic
 2. Error identification and correction
 3. Techniques such as using a debugger, adding extra output statements, or hand-tracing code.
- C. Runtime exceptions
- D. Program correctness
 1. Pre- and post-conditions
 2. Assertions
- E. Algorithm Analysis
 1. Statement execution counts
 2. Informal running time comparison
- F. Numerical representations of integers
 1. Representations of non-negative integers in different bases
 2. Implications of finite integer bounds

IV. Standard Data Structures

Data structures are used to represent information within a program. Abstraction is an important theme in the development and application of data structures.

- A. Primitive data types (int, boolean, double)
- B. Strings
- C. Classes
- D. Lists
- E. Arrays (1-dimensional and 2-dimensional)

V. Standard Operations and Algorithms

Standard algorithms serve as examples of good solutions to standard problems. Many are intertwined with standard data structures. These algorithms provide examples for analysis of program efficiency.

- A. Operations on data structures
 - 1. Traversals
 - 2. Insertions
 - 3. Deletions
- B. Searching
 - 1. Sequential
 - 2. Binary
- C. Sorting
 - 1. Selection
 - 2. Insertion
 - 3. Mergesort

VI. Computing in Context

An awareness of the ethical and social implications of computing systems is necessary for the study of computer science. These topics need not be covered in detail, but should be considered throughout the course.

- A. System reliability
- B. Privacy
- C. Legal issues and intellectual property
- D. Social and ethical ramifications of computer use

COMMENTARY ON THE TOPIC OUTLINE

The topic outline summarizes the content of the AP Computer Science A curriculum. In this section, we provide more details about the topics in the outline.

I. Object-Oriented Program Design

Computer science involves the study of complex systems, of which computer software is often a part. To understand the development of computer software, we need tools that can make sense of that complexity. Object-oriented design and programming form an approach that enables us to do that, based on the idea that a piece of software, just like a computer itself, is composed of many interacting parts.

The term *design*, as used here, refers to the design of implementations that meet particular specifications, as opposed to the design of specifications that meet particular requirements or of the requirements themselves. Students need not start by designing a whole program but may study programs already developed, then write or modify parts of a program to add to or change its functionality. By the end of the course students will be able to work from a specification to develop a design for a program or part of a program.

In an object-oriented approach, the fundamental unit of an executing program is an object, an entity that has state (data) and behavior (operations that access or change its state and that may interact with other objects through well defined interfaces). The AP Computer Science A curriculum uses the common class-based approach to object-oriented programming, in which objects are defined by classes: a class specifies the components and operations of an object, and each object is an instance of a class.

A. Program and Class Design

A fundamental part of the development of an object-oriented program is the design of its classes. Students should understand inheritance (“is-a”) relationships and composition (“has-a”) relationships among the different classes that comprise a program. They should also be able to implement a class inheritance hierarchy when given the specifications for the classes involved — which classes are subclasses of other classes.

Students should be able to design a class — write the class declaration including the instance variables and the method signatures (whose bodies would comprise the implementation of this design) — when they are given a description of the type of entity the class represents. Such a description would include the information that must be encapsulated by the class and the operations that can be applied to an instance of the class to access or modify that information. The design of a class includes decisions on appropriate data structures for representing its information and on algorithms for operations on that data. The decomposition of operations into subsidiary operations — functional decomposition — is part of the design process.

Given a design for a class, either their own or one provided, students should then be able to implement the class. They should also be able to extend a given class using inheritance, thereby creating a subclass with modified or additional functionality.

An *interface* is a specification for a set of operations that a class must implement. In Java, there is a specific construct, the interface, which can be used for this purpose, so that the specification of the methods applicable to a class can be separated from implementations of that specification. Students should be able to write interfaces, write classes that implement interfaces and write programs that use interfaces.

B. Design as an Exam Topic

The AP Computer Science A Exam may include questions that ask about the design as well as the implementation of classes or a simple hierarchy of classes.

A design question provides students with a description of the type of information that an object should encapsulate and of operations on that information that an object should provide. Students are required to provide part or all of an interface or class declaration to define such objects.

A design question may require a student to develop a solution that requires the following:

- appropriate use of inheritance from another class using the keyword `extends`
- appropriate implementation of an interface using the keyword `implements`
- declaration of constructors with appropriate parameters
- declaration of constructors and methods with
 - meaningful names
 - appropriate parameters
 - appropriate return types
- appropriate choice of data representation
- appropriate designation of methods as client-accessible (`public`) or internal (`private`)
- designation of all instance variables as `private`

A design question might only require that a student specify the appropriate constructor and method headers (access modifier, return type, method identifier, and parameter list) and not require that the body of the constructors or methods be implemented. A question focusing on a simple class hierarchy might also require implementation of the bodies of some or all of the classes' constructors and methods.

The AP Java Subset is restricted to private instance variables to encourage the exclusive use of methods to access and modify objects, a practice that minimizes dependence on particular choices of representation and thus makes such choices easy to change.

II. Program Implementation

There are topics not included in the course outline that will be part of any introductory course. For example, input and output must be part of a course on computer programming. However, in a modern object-oriented approach to programming, there are many ways to handle input and output. Consequently, the AP Computer Science A course does not prescribe any particular approach and will not test the details of input and output (except for basic text output using `System.out.print` and `System.out.println`), so that teachers may use an approach that fits their own style and whatever textbook and other materials they use.

Students are expected to demonstrate an understanding of the concept of recursion and to determine the results of executing simple recursive methods. Unlike the other control structures, students will not have to write recursive methods.

JAVA LIBRARY CLASSES AND INTERFACES

An important aspect of modern programming is the existence of extensive libraries that supply many common classes and methods. An essential programming skill is the ability to appropriately use available libraries. The AP Computer Science A curriculum specifies a subset of classes and interfaces from the Java libraries with which students should be familiar.

In addition, students should recognize possibilities for reusing components of their own code or of other examples of code, such as the *AP Computer Science Labs*, in different programs.

III. Program Analysis

There are many techniques for finding and correcting errors, for “debugging” a program or segment of a program. These include hand-tracing code, adding extra output statements to trace the execution of a program, or using a debugger to provide information about the program as it runs and when it crashes. Students should be encouraged to experiment with available debugging facilities. However, these will not be tested since they vary from system to system.

Students should be able to read and modify code for a program. They should also be able to extend existing code by taking a given class declaration and declaring a new class using inheritance to add or change the given class’ functionality. The *AP Computer Science Labs* contain examples of using inheritance to create new classes.

Students in the AP Computer Science A course should understand runtime exceptions as they are used by the Java virtual machine to report program errors. The `throw` statement is not part of the subset but might be useful for teaching students about error checking.

Students also need to be familiar with the concepts of preconditions, postconditions, and assertions and correctly interpret them when presented as pseudocode. Teachers may find the `assert` statement of the Java language to be a convenient way to have students test the satisfaction of any of these, but `assert` is not part of the AP Java Subset and is not tested.

Students should be able to make informal comparisons of running times of different pieces of code: for example, by determining the number of times a statement is executed or the number of loop iterations needed for a computation.

Many programs involve numerical computations and therefore are limited by the finite representations of integers in a computer. Students should understand the representation of non-negative integers in different bases, particularly decimal, binary, hexadecimal, and octal. They should also understand the consequences of the finite bounds of integer representation.

IV. Standard Data Structures

Students should understand the standard data structures and their use. Students need to be able to use the primitive types: `int`, `double`, and `boolean`. The other primitive types in Java are not part of the AP Java subset but may be useful in the AP Computer Science A course.

Students are responsible for understanding the Java `String` class and the methods of the `String` class that are listed in the Java Quick Reference (see Appendix B).

Students should be comfortable working with 1-dimensional and 2-dimensional arrays. They need to understand that 2-dimensional arrays are stored as arrays of arrays. For the purposes of the AP Computer Science A Exam, students should assume that 2-dimensional arrays are rectangular (not ragged) and the elements are indexed in row-major order.

Students should be able to use lists of data and be able to use Java arrays and the `ArrayList` class to implement such lists. They should be able to use either of these list types in a program and should be able to select the most appropriate one for a given application. The methods for the `List` interface (and its implementation by the `ArrayList` class) for which students are responsible are specified in the Java Quick Reference (see Appendix B).

V. Standard Operations and Algorithms

Standard operations for arrays include traversals, insertions, and deletions. Students should know the two standard searches, sequential search and binary search, and the relative running time of each. There are three sorting algorithms that are required for the AP Computer Science A course: selection, insertion, and merge sort. Standard implementations of these algorithms can be found in Appendix C. Questions based on these implementations may appear on the exam.

VI. Computing in Context

Given the tremendous impact computers and computing have on almost every aspect of society, it is important that intelligent and responsible attitudes about the use of computers be developed as early as possible. The applications of computing that are studied in the AP Computer Science A course provide opportunities to discuss the impact of computing. Typical issues include the:

- impact of applications using databases, particularly over the Internet, on an individual's right to privacy;
- economic and legal impact of viruses and other malicious attacks on computer systems;
- need for fault-tolerant and highly reliable systems for life-critical applications and the resulting need for software engineering standards; and
- intellectual property rights and fair use of intellectual property.

Attitudes are acquired, not taught. References to responsible use of computer systems should be integrated throughout the AP Computer Science A course. Participation in the AP Computer Science A course provides an opportunity to discuss issues such as the responsible use of a system and respect for the rights and property of others. Students should learn to take responsibility for the programs they write and for the consequences of the use of their programs.

LAB REQUIREMENTS

Although the AP Computer Science A course draws heavily upon theory, formal logic, abstract data structures, and a conceptual understanding of algorithms, students also must gain significant experience applying the concepts to tackle a wide range of problems. As students design data structures and develop algorithms, the students should integrate ideas, test hypotheses, and explore alternative approaches. Further, activities motivated by real-world applications can provide insights about how computing can be useful in society, motivate the study of technical issues, and capture students' interest.

The AP Computer Science A course must include a minimum of 20 hours of hands-on structured-lab experiences to engage students in individual or group problem solving. Thus, each AP Computer Science A course must include a substantial laboratory component in which students design solutions to problems, express their solutions precisely (i.e., in the Java programming language), test their solutions, identify and correct errors (when mistakes occur), and compare possible solutions. Collectively, these laboratory experiences and activities should contain the following characteristics:

- Explore computing in context at a significant level, building upon existing code that provides examples of good style and appropriate use of programming language constructs.
- Contain a significant problem-solving component in which students study alternative approaches for solving a problem, solve new problems, or modify existing code to solve altered problems.
- Provide students with experience working with programs involving multiple interactive classes and may involve decomposing a program into classes and using inheritance, interfaces, and other object-oriented concepts as identified in the AP Computer Science A topic outline.

Three exemplar labs, the AP Computer Science A Labs, have been developed for teachers to use in the AP Computer Science A course. AP Computer Science A teachers will be able to access all instructional resources for each lab (Teacher and Student Guides, solutions and code files) through their AP Course Audit accounts. The first lab (Magpie) can be incorporated early in the course and involves simple string processing and conditional execution. The second lab (Picture Lab) involves 2-dimensional array manipulation in the context of image processing. The third lab (Elevens) provides an example of larger object-oriented program design. The AP Computer Science Labs include teacher and student guides along with Java code. Each teacher guide includes concepts covered, learning objectives, necessary prerequisite knowledge, guidelines on when each lab might fit naturally into a course, suggestions on the use of the materials, suggested problems and questions for use during each activity, and sample assessment exercises. The Student Guides for the *AP Computer Science A Labs* can be found on the AP Computer Science home page:

http://apcentral.collegeboard.com/apc/public/courses/teachers_corner/222163.html

Teachers may use the provided labs, develop their own labs and/or utilize laboratory exercises from textbook authors or other sources. When choosing labs, teachers must carefully evaluate the activities, objectives, and materials to be certain that the labs address the characteristics outlined above.

AP Computer Science A: Curricular Requirements

- The teacher has read the most recent AP Computer Science A Course Description.
- The course teaches students to design and implement computer-based solutions to problems.
- The course teaches students to use and implement commonly used algorithms and data structures.
- The course teaches students to select appropriate algorithms and data structures to solve problems.
- The course teaches students to code fluently in an object-oriented paradigm using the programming language Java.
- The course teaches students to use standard Java library classes from the AP Java subset delineated in Appendix A of the AP Computer Science A Course Description.
- The course includes a structured lab component comprised of a minimum of 20 hours of hands-on lab experiences.
- The course teaches students to recognize the ethical and social implications of computer use.

Resource Requirements

- The school ensures that each student has a college-level text for individual use inside and outside of the classroom and has access to the AP Computer Science A Labs.
- The school ensures that each student has access to a computer for at least three hours a week; three hours are the bare minimum, additional time is desirable. The computer system must contain appropriate software to create and edit programs and must allow programs comparable in size to the current AP Computer Science A Labs to compile in seconds. Internet access is strongly encouraged.

THE EXAM

The AP Computer Science A Exam is 3 hours long and seeks to determine how well students have mastered the concepts and techniques contained in the course outline. The exam consists of two sections: a multiple-choice section (40 questions in 1 hour and 30 minutes), which tests proficiency in a wide variety of topics, and a free-response section (4 questions in 1 hour and 30 minutes), which requires the student to demonstrate the ability to solve problems involving more extended reasoning.

The multiple-choice and the free-response sections of the AP Computer Science A Exam require students to demonstrate their ability to solve problems, including their ability to design, write, and analyze programs and subprograms. Minor points of syntax are not tested on the exam. All code given is consistent with the AP Java subset. All student responses involving code must be written in Java. Students are expected to be familiar with and able to use the standard Java classes and interfaces listed in the AP Java subset. For both the multiple-choice and the free-response sections of the exam, a quick reference to the classes and interfaces in the AP Java subset will be provided. The Java Quick Reference is included in Appendix B.

In the determination of the grade for the exam, the multiple-choice section and the free-response section are given equal weight. Because the exam is designed for full coverage of the subject matter, it is not expected that many students will be able to correctly answer all the questions in either the multiple-choice section or the free-response section in the time allotted.

Multiple-choice questions on the exam are classified according to the type of content that is tested in the question. Questions may be listed in one or more of the classification categories. For example, a question that uses a looping construct to traverse the elements of an array would be listed under both the Data Structures and the Programming Fundamentals categories. The table below shows the classification categories and how they are represented in the multiple-choice section of the exam. Because questions can be classified in more than one category, the total of the percentages is greater than 100%.

Classification Category	Percent of multiple-choice items
Programming Fundamentals	55–75%
Data Structures	20–40%
Logic	5–15%
Algorithms/Problem Solving	25–45%
Object-Oriented Programming	15–25%
Recursion	5–15%
Software Engineering	2–10%

Computer Science A: Sample Multiple-Choice Questions

Following is a representative set of questions. The answer key for the Computer Science A multiple-choice questions is on page 43. Multiple-choice scores are based on the number of questions answered correctly. Points are not deducted for incorrect answers, and no points are awarded for unanswered questions. Because points are not deducted for incorrect answers, students are encouraged to answer all multiple-choice questions. Students should eliminate as many choices as they can on any questions for which they do not know the answer, and then select the best answer among the remaining choices.

Directions: Determine the answer to each of the following questions or incomplete statements, using the available space for any necessary scratch work. Then decide which is the best of the choices given and fill in the corresponding circle on the answer sheet. No credit will be given for anything written in the examination booklet. Do not spend too much time on any one problem

Notes:

- Assume that the classes listed in the Java Quick Reference have been imported where appropriate.
- Assume that declarations of variables and methods appear within the context of an enclosing class.
- Assume that method calls that are not prefixed with an object or class name and are not shown within a complete class definition appear within the context of an enclosing class.
- Unless otherwise noted in the question, assume that parameters in method calls are not `null` and that methods are called only when their preconditions are satisfied.

1. Consider the following code segment.

```
for (int k = 0; k < 20; k = k + 2)
{
    if (k % 3 == 1)
    {
        System.out.print(k + " ");
    }
}
```

What is printed as a result of executing the code segment?

- (A) 4 16
 - (B) 4 10 16
 - (C) 0 6 12 18
 - (D) 1 4 7 10 13 16 19
 - (E) 0 2 4 6 8 10 12 14 16 18
2. Consider the following code segment.

```
List<String> animals = new ArrayList<String>();

animals.add("dog");
animals.add("cat");
animals.add("snake");
animals.set(2, "lizard");
animals.add(1, "fish");
animals.remove(3);
System.out.println(animals);
```

What is printed as a result of executing the code segment?

- (A) [dog, fish, cat]
- (B) [dog, fish, lizard]
- (C) [dog, lizard, fish]
- (D) [fish, dog, cat]
- (E) The code throws an `ArrayIndexOutOfBoundsException` exception.

3. Consider the following method.

```
public static void mystery(List<Integer> nums)
{
    for (int k = 0; k < nums.size(); k++)
    {
        if (nums.get(k).intValue() == 0)
        {
            nums.remove(k);
        }
    }
}
```

Assume that a `List<Integer>` `values` initially contains the following Integer values.

[0, 0, 4, 2, 5, 0, 3, 0]

What will `values` contain as a result of executing `mystery(values)` ?

- (A) [0, 0, 4, 2, 5, 0, 3, 0]
- (B) [4, 2, 5, 3]
- (C) [0, 0, 0, 0, 4, 2, 5, 3]
- (D) [0, 4, 2, 5, 3]
- (E) The code throws an `ArrayIndexOutOfBoundsException` exception.

4. At a certain high school students receive letter grades based on the following scale.

<u>Integer Score</u>	<u>Letter Grade</u>
93 or above	A
From 84 to 92 inclusive	B
From 75 to 83 inclusive	C
Below 75	F

Which of the following code segments will assign the correct string to `grade` for a given integer `score` ?

I.

```
if (score >= 93)
    grade = "A";
if (score >= 84 && score <= 92)
    grade = "B";
if (score >= 75 && score <= 83)
    grade = "C";
if (score < 75)
    grade = "F";
```

II.

```
if (score >= 93)
    grade = "A";
if (84 <= score <= 92)
    grade = "B";
if (75 <= score <= 83)
    grade = "C";
if (score < 75)
    grade = "F";
```

III.

```
if (score >= 93)
    grade = "A";
else if (score >= 84)
    grade = "B";
else if (score >= 75)
    grade = "C";
else
    grade = "F";
```

- (A) II only
 (B) III only
 (C) I and II only
 (D) I and III only
 (E) I, II, and III

5. Consider the following output.

```
1 1 1 1 1
2 2 2 2
3 3 3
4 4
5
```

Which of the following code segments will produce this output?

- (A)

```
for (int j = 1; j <= 5; j++)
{
    for (int k = 1; k <= 5; k++)
    {
        System.out.print(j + " ");
    }
    System.out.println();
}
```
- (B)

```
for (int j = 1; j <= 5; j++)
{
    for (int k = 1; k <= j; k++)
    {
        System.out.print(j + " ");
    }
    System.out.println();
}
```
- (C)

```
for (int j = 1; j <= 5; j++)
{
    for (int k = 5; k >= 1; k--)
    {
        System.out.print(j + " ");
    }
    System.out.println();
}
```
- (D)

```
for (int j = 1; j <= 5; j++)
{
    for (int k = 5; k >= j; k--)
    {
        System.out.print(j + " ");
    }
    System.out.println();
}
```
- (E)

```
for (int j = 1; j <= 5; j++)
{
    for (int k = j; k <= 5; k++)
    {
        System.out.print(k + " ");
    }
    System.out.println();
}
```

6. A car dealership needs a program to store information about the cars for sale. For each car, they want to keep track of the following information: number of doors (2 or 4), whether the car has air conditioning, and its average number of miles per gallon. Which of the following is the best object-oriented program design?
- (A) Use one class, `Car`, with three instance variables:
`int numDoors, boolean hasAir, and
double milesPerGallon.`
 - (B) Use four unrelated classes: `Car`, `Doors`, `AirConditioning`, and `MilesPerGallon`.
 - (C) Use a class `Car` with three subclasses: `Doors`, `AirConditioning`, and `MilesPerGallon`.
 - (D) Use a class `Car`, with a subclass `Doors`, with a subclass `AirConditioning`, with a subclass `MilesPerGallon`.
 - (E) Use three classes: `Doors`, `AirConditioning`, and `MilesPerGallon`, each with a subclass `Car`.
7. Consider the following declarations.

```
public interface Shape
{
    int isLargerThan(Shape other);
    // Other methods not shown
}
public class Circle implements Shape
{
    // Other methods not shown
}
```

Which of the following method headings of `isLargerThan` can be added to the declaration of the `Circle` class so that it will satisfy the `Shape` interface?

- I. `public int isLargerThan(Shape other)`
 - II. `public int isLargerThan(Circle other)`
 - III. `public boolean isLargerThan(Object other)`
- (A) I only
 - (B) II only
 - (C) III only
 - (D) I and II only
 - (E) I, II, and III

Questions 8–9 refer to the following incomplete class declaration.

```
public class TimeRecord
{
    private int hours;
    private int minutes; // 0 ≤ minutes < 60
    /** Constructs a TimeRecord object.
     * @param h the number of hours
     *         Precondition:  $h \geq 0$ 
     * @param m the number of minutes
     *         Precondition:  $0 \leq m < 60$ 
     */
    public TimeRecord(int h, int m)
    {
        hours = h;
        minutes = m;
    }

    /** @return the number of hours
     */
    public int getHours()
    { /* implementation not shown */ }

    /** @return the number of minutes
     * Postcondition:  $0 \leq \text{minutes} < 60$ 
     */
    public int getMinutes()
    { /* implementation not shown */ }

    /** Adds h hours and m minutes to this TimeRecord.
     * @param h the number of hours
     *         Precondition:  $h \geq 0$ 
     * @param m the number of minutes
     *         Precondition:  $m \geq 0$ 
     */
    public void advance(int h, int m)
    {
        hours = hours + h;
        minutes = minutes + m;
        /* missing code */
    }
    // Other methods not shown
}
```

8. Which of the following can be used to replace */* missing code */* so that `advance` will correctly update the time?
- (A) `minutes = minutes % 60;`
- (B) `minutes = minutes + hours % 60;`
- (C) `hours = hours + minutes / 60;`
`minutes = minutes % 60;`
- (D) `hours = hours + minutes % 60;`
`minutes = minutes / 60;`
- (E) `hours = hours + minutes / 60;`
9. Consider the following declaration that appears in a class other than `TimeRecord`.

```
TimeRecord[] timeCards = new TimeRecord[100];
```

Assume that `timeCards` has been initialized with `TimeRecord` objects. Consider the following code segment that is intended to compute the total of all the times stored in `timeCards`.

```
TimeRecord total = new TimeRecord(0,0);
for (int k = 0; k < timeCards.length; k++)
{
    /* missing expression */ ;
}
```

Which of the following can be used to replace */* missing expression */* so that the code segment will work as intended?

- (A) `timeCards[k].advance()`
- (B) `total += timeCards[k].advance()`
- (C) `total.advance(timeCards[k].hours,`
`timeCards[k].minutes)`
- (D) `total.advance(timeCards[k].getHours(),`
`timeCards[k].getMinutes())`
- (E) `timeCards[k].advance(timeCards[k].getHours(),`
`timeCards[k].getMinutes())`

10. Consider the following instance variable and method.

```
private int[] arr;

/** Precondition: arr contains no duplicates;
 *         the elements in arr are in ascending order.
 * @param low an int value such that  $0 \leq \text{low} \leq \text{arr.length}$ 
 * @param high an int value such that  $\text{low} - 1 \leq \text{high} < \text{arr.length}$ 
 * @param num an int value
 */
public int mystery(int low, int high, int num)
{
    int mid = (low + high) / 2;
    if (low > high)
    {
        return low;
    }
    else if (arr[mid] < num)
    {
        return mystery(mid + 1, high, num);
    }
    else if (arr[mid] > num)
    {
        return mystery(low, mid - 1, num);
    }
    else // arr[mid] == num
    {
        return mid;
    }
}
```

What is returned by the call `mystery(0, arr.length - 1, num)`?

- (A) The number of elements in `arr` that are less than `num`
- (B) The number of elements in `arr` that are less than or equal to `num`
- (C) The number of elements in `arr` that are equal to `num`
- (D) The number of elements in `arr` that are greater than `num`
- (E) The index of the middle element in `arr`

Questions 11–12 refer to the following information.

Consider the following instance variable `nums` and method `findLongest` with line numbers added for reference. Method `findLongest` is intended to find the longest consecutive block of the value `target` occurring in the array `nums`; however, `findLongest` does not work as intended.

For example, if the array `nums` contains the values [7, 10, 10, 15, 15, 15, 15, 10, 10, 10, 15, 10, 10], the call `findLongest(10)` should return 3, the length of the longest consecutive block of 10s.

```
private int[] nums;

public int findLongest(int target)
{
    int lenCount = 0;
    int maxLen = 0;

Line 1: for (int val : nums)
Line 2: {
Line 3:     if (val == target)
Line 4:     {
Line 5:         lenCount++;
Line 6:     }
Line 7:     else
Line 8:     {
Line 9:         if (lenCount > maxLen)
Line 10:        {
Line 11:            maxLen = lenCount;
Line 12:        }
Line 13:    }
Line 14: }
Line 15: if (lenCount > maxLen)
Line 16: {
Line 17:     maxLen = lenCount;
Line 18: }
Line 19: return maxLen;
}
```

11. The method `findLongest` does not work as intended. Which of the following best describes the value returned by a call to `findLongest` ?
- (A) It is the length of the shortest consecutive block of the value `target` in `nums`.
 - (B) It is the length of the array `nums`.
 - (C) It is the number of occurrences of the value `target` in `nums`.
 - (D) It is the length of the first consecutive block of the value `target` in `nums`.
 - (E) It is the length of the last consecutive block of the value `target` in `nums`.
12. Which of the following changes should be made so that method `findLongest` will work as intended?
- (A) Insert the statement `lenCount = 0;` between lines 2 and 3.
 - (B) Insert the statement `lenCount = 0;` between lines 8 and 9.
 - (C) Insert the statement `lenCount = 0;` between lines 10 and 11.
 - (D) Insert the statement `lenCount = 0;` between lines 11 and 12.
 - (E) Insert the statement `lenCount = 0;` between lines 12 and 13.

13. Consider the following instance variable and method.

```
private int[] numbers;

/** Precondition: numbers contains int values in no particular order.
 */
public int mystery(int num)
{
    for (int k = numbers.length - 1; k >= 0; k--)
    {
        if (numbers[k] < num)
        {
            return k;
        }
    }
    return -1;
}
```

Which of the following best describes the contents of `numbers` after the following statement has been executed?

```
int m = mystery(n);
```

- (A) All values in positions `0` through `m` are less than `n`.
- (B) All values in positions `m+1` through `numbers.length-1` are less than `n`.
- (C) All values in positions `m+1` through `numbers.length-1` are greater than or equal to `n`.
- (D) The smallest value is at position `m`.
- (E) The largest value that is smaller than `n` is at position `m`.

14. Consider the following method.

```
/** @param x an int value such that x >= 0
 */
public void mystery(int x)
{
    System.out.print(x % 10);
    if ((x / 10) != 0)
    {
        mystery(x / 10);
    }
    System.out.print(x % 10);
}
```

Which of the following is printed as a result of the call `mystery(1234)`?

- (A) 1234
- (B) 4321
- (C) 12344321
- (D) 43211234
- (E) Many digits are printed due to infinite recursion.

15. Consider the following two classes.

```
public class Dog
{
    public void act()
    {
        System.out.print("run ");
        eat();
    }
    public void eat()
    {
        System.out.print("eat ");
    }
}
public class UnderDog extends Dog
{
    public void act()
    {
        super.act();
        System.out.print("sleep ");
    }
    public void eat()
    {
        super.eat();
        System.out.print("bark ");
    }
}
```

Assume that the following declaration appears in a class other than `Dog`.

```
Dog fido = new UnderDog();
```

What is printed as a result of the call `fido.act()` ?

- (A) run eat
- (B) run eat sleep
- (C) run eat sleep bark
- (D) run eat bark sleep
- (E) Nothing is printed due to infinite recursion.

16. Consider the following recursive method.

```
public static int mystery(int n)
{
    if (n <= 1)
    {
        return 0;
    }
    else
    {
        return 1 + mystery(n / 2);
    }
}
```

Assuming that k is a nonnegative integer and $m = 2^k$, what value is returned as a result of the call `mystery(m)` ?

- (A) 0
- (B) k
- (C) m
- (D) $\frac{m}{2} + 1$
- (E) $\frac{k}{2} + 1$

17. Consider the following instance variable and method.

```
private int[] array;

/** Precondition: array.length > 0
 */
public int checkArray()
{
    int loc = array.length / 2;
    for (int k = 0; k < array.length; k++)
    {
        if (array[k] > array[loc])
        {
            loc = k;
        }
    }
    return loc;
}
```

Which of the following is the best postcondition for `checkArray` ?

- (A) Returns the index of the first element in array `array` whose value is greater than `array[loc]`
- (B) Returns the index of the last element in array `array` whose value is greater than `array[loc]`
- (C) Returns the largest value in array `array`
- (D) Returns the index of the largest value in array `array`
- (E) Returns the index of the largest value in the second half of array `array`

18. Consider the following methods.

```

public void changer(String x, int y)
{
    x = x + "peace";
    y = y * 2;
}

public void test()
{
    String s = "world";
    int n = 6;
    changer(s, n);

    /* End of method */
}

```

When the call `test()` is executed, what are the values of `s` and `n` at the point indicated by `/* End of method */` ?

- | | <u>s</u> | <u>n</u> |
|-----|------------|----------|
| (A) | world | 6 |
| (B) | worldpeace | 6 |
| (C) | world | 12 |
| (D) | worldpeace | 12 |
| (E) | peace | 12 |

19. Consider the following code segment.

```
int[][] mat = new int[3][4];
for (int row = 0; row < mat.length; row++)
{
    for (int col = 0; col < mat[0].length; col++)
    {
        if (row < col)
        {
            mat[row][col] = 1;
        }
        else if (row == col)
        {
            mat[row][col] = 2;
        }
        else
        {
            mat[row][col] = 3;
        }
    }
}
```

What are the contents of `mat` after the code segment has been executed?

- (A) $\{\{2, 1, 1\},$
 $\{3, 2, 1\},$
 $\{3, 3, 2\},$
 $\{3, 3, 3\}\}$
- (B) $\{\{2, 3, 3\},$
 $\{1, 2, 3\},$
 $\{1, 1, 2\},$
 $\{1, 1, 1\}\}$
- (C) $\{\{2, 3, 3, 3\},$
 $\{1, 2, 3, 3\},$
 $\{1, 1, 2, 3\}\}$
- (D) $\{\{2, 1, 1, 1\},$
 $\{3, 2, 1, 1\},$
 $\{3, 3, 2, 1\}\}$
- (E) $\{\{1, 1, 1, 1\},$
 $\{2, 2, 2, 2\},$
 $\{3, 3, 3, 3\}\}$

20. Consider the following method.

```

/** Precondition: arr contains only positive values.
 */
public static void doSome(int[] arr, int lim)
{
    int v = 0;
    int k = 0;
    while (k < arr.length && arr[k] < lim)
    {
        if (arr[k] > v)
        {
            v = arr[k]; /* Statement S */
        }
        k++; /* Statement T */
    }
}

```

Assume that `doSome` is called and executes without error. Which of the following are possible combinations for the value of `lim`, the number of times *Statement S* is executed, and the number of times *Statement T* is executed?

	Value of <u>lim</u>	Executions of <u>Statement S</u>	Executions of <u>Statement T</u>
I.	5	0	5
II.	7	4	9
III.	3	5	2

- (A) I only
- (B) II only
- (C) III only
- (D) I and III only
- (E) II and III only

21. Consider the following instance variable, `arr`, and incomplete method, `partialSum`. The method is intended to return an integer array `sum` such that for all `k`, `sum[k]` is equal to `arr[0] + arr[1] + ... + arr[k]`. For instance, if `arr` contains the values `{ 1, 4, 1, 3 }`, the array `sum` will contain the values `{ 1, 5, 6, 9 }`.

```
private int[] arr;
public int[] partialSum()
{
    int[] sum = new int[arr.length];
    for (int j = 0; j < sum.length; j++)
    {
        sum[j] = 0;
    }
    /* missing code */
    return sum;
}
```

The following two implementations of `/* missing code */` are proposed so that `partialSum` will work as intended.

Implementation 1

```
for (int j = 0; j < arr.length; j++)
{
    sum[j] = sum[j - 1] + arr[j];
}
```

Implementation 2

```
for (int j = 0; j < arr.length; j++)
{
    for (int k = 0; k <= j; k++)
    {
        sum[j] = sum[j] + arr[k];
    }
}
```

Which of the following statements is true?

- (A) Both implementations work as intended, but implementation 1 is faster than implementation 2.
- (B) Both implementations work as intended, but implementation 2 is faster than implementation 1.
- (C) Both implementations work as intended and are equally fast.
- (D) Implementation 1 does not work as intended, because it will cause an `ArrayIndexOutOfBoundsException`.
- (E) Implementation 2 does not work as intended, because it will cause an `ArrayIndexOutOfBoundsException`.

22. Consider the following declaration for a class that will be used to represent points in the xy -coordinate plane.

```
public class Point
{
    private int x;        // x-coordinate of the point
    private int y;        // y-coordinate of the point

    public Point()
    {
        x = 0;
        y = 0;
    }

    public Point(int a, int b)
    {
        x = a;
        y = b;
    }

    // Other methods not shown
}
```

The following incomplete class declaration is intended to extend the above class so that points can be named.

```
public class NamedPoint extends Point
{
    private String name; // name of point

    // Constructors go here

    // Other methods not shown
}
```

Consider the following proposed constructors for this class.

- I.

```
public NamedPoint()  
{  
    name = "";  
}
```
- II.

```
public NamedPoint(int d1, int d2, String pointName)  
{  
    x = d1;  
    y = d2;  
    name = pointName;  
}
```
- III.

```
public NamedPoint(int d1, int d2, String pointName)  
{  
    super(d1, d2);  
    name = pointName;  
}
```

Which of these constructors would be legal for the `NamedPoint` class?

- (A) I only
(B) II only
(C) III only
(D) I and III only
(E) II and III only

23. Consider a `shuffle` method that is intended to return a new array that contains all the elements from `nums`, but in a different order. Let `n` be the number of elements in `nums`. The `shuffle` method should alternate the elements from `nums[0] ... nums[n / 2 - 1]` with the elements from `nums[n / 2] ... nums[n - 1]`, as illustrated in the following examples.

Example 1

	0	1	2	3	4	5	6	7
nums	10	20	30	40	50	60	70	80

	0	1	2	3	4	5	6	7
result	10	50	20	60	30	70	40	80

Example 2

	0	1	2	3	4	5	6
nums	10	20	30	40	50	60	70

	0	1	2	3	4	5	6
result	10	40	20	50	30	60	70

The following implementation of the `shuffle` method does not work as intended.

```
public static int[] shuffle(int[] nums)
{
    int n = nums.length;
    int[] result = new int[n];

    for (int j = 0; j < n / 2; j++)
    {
        result[j * 2] = nums[j];
        result[j * 2 + 1] = nums[j + n / 2];
    }

    return result;
}
```

Which of the following best describes the problem with the given implementation of the `shuffle` method?

- (A) Executing `shuffle` may cause an `ArrayIndexOutOfBoundsException`.
- (B) The first element of the returned array (`result[0]`) may not have the correct value.
- (C) The last element of the returned array (`result[result.length - 1]`) may not have the correct value.
- (D) One or more of `nums[0] ... nums[nums.length / 2 - 1]` may have been copied to the wrong position(s) in the returned array.
- (E) One or more of `nums[nums.length / 2] ... nums[nums.length - 1]` may have been copied to the wrong position(s) in the returned array.

24. Consider the following `Util` class, which contains two methods. The completed `sum1D` method returns the sum of all the elements of the 1-dimensional array `a`. The incomplete `sum2D` method is intended to return the sum of all the elements of the 2-dimensional array `m`.

```
public class Util
{
    /** Returns the sum of the elements of the 1-dimensional array a */
    public static int sum1D(int[] a)
    { /* implementation not shown */ }

    /** Returns the sum of the elements of the 2-dimensional array m */
    public static int sum2D(int[][] m)
    {
        int sum = 0;

        /* missing code */

        return sum;
    }
}
```

Assume that `sum1D` works correctly. Which of the following can replace `/* missing code */` so that the `sum2D` method works correctly?

- I.

```
for (int k = 0; k < m.length; k++)
{
    sum += sum1D(m[k]);
}
```
- II.

```
for (int[] row : m)
{
    sum += sum1D(row);
}
```
- III.

```
for (int[] row : m)
{
    for (int v : row)
    {
        sum += v;
    }
}
```

- (A) I only
 (B) II only
 (C) I and II only
 (D) II and III only
 (E) I, II, and III

25. The following `sort` method correctly sorts the integers in `elements` into ascending order.

```
Line 1:  public static void sort(int[] elements)
Line 2:  {
Line 3:      for (int j = 0; j < elements.length - 1; j++)
Line 4:  {
Line 5:      int index = j;
Line 6:
Line 7:      for (int k = j + 1; k < elements.length; k++)
Line 8:  {
Line 9:      if (elements[k] < elements[index])
Line 10:  {
Line 11:      index = k;
Line 12:  }
Line 13:  }
Line 14:
Line 15:      int temp = elements[j];
Line 16:      elements[j] = elements[index];
Line 17:      elements[index] = temp;
Line 18:  }
Line 19: }
```

Which of the following changes to the `sort` method would correctly sort the integers in `elements` into **descending** order?

I. Replace line 9 with:

```
Line 9:         if (elements[k] > elements[index])
```

II. Replace lines 15–17 with:

```
Line 15:        int temp = elements[index];
Line 16:        elements[index] = elements[j];
Line 17:        elements[j] = temp;
```

III. Replace line 3 with:

```
Line 3:        for (int j = elements.length - 1; j > 0; j--)
and replace line 7 with:
```

```
Line 7:        for (int k = 0; k < j; k++)
```

- (A) I only
- (B) II only
- (C) I and II only
- (D) I and III only
- (E) I, II, and III

Answers to Computer Science A Multiple-Choice Questions

1 – B	6 – A	11 – C	16 – B	21 – D
2 – A	7 – A	12 – E	17 – D	22 – D
3 – D	8 – C	13 – C	18 – A	23 – C
4 – D	9 – D	14 – D	19 – D	24 – E
5 – D	10 – A	15 – D	20 – B	25 – D

Sample Free-Response Questions

Following is a representative set of questions. Additional sample questions can be found in the AP section of the College Board website.

Directions: SHOW ALL YOUR WORK. REMEMBER THAT PROGRAM SEGMENTS ARE TO BE WRITTEN IN JAVA.

Notes:

- Assume that the classes listed in the Java Quick Reference have been imported where appropriate
- Unless otherwise noted in the question, assume that parameters in method calls are not `null` and that methods are called only when their preconditions are satisfied.
- In writing solutions for each question, you may use any of the accessible methods that are listed in classes defined in that question. Writing significant amounts of code that can be replaced by a call to one of these methods will not receive full credit.

1. A travel agency maintains a list of information about airline flights. Flight information includes a departure time and an arrival time. You may assume that the two times occur on the same day. These times are represented by objects of the `Time` class.

The declaration for the `Time` class is shown below. It includes a method `minutesUntil`, which returns the difference (in minutes) between the current `Time` object and another `Time` object.

```
public class Time
{
    /** @return difference, in minutes, between this time and other;
     *     difference is negative if other is earlier than this time
     */
    public int minutesUntil(Time other)
    { /* implementation not shown */ }

    // There may be instance variables, constructors, and methods that are not
    // shown.
}
```

For example, assume that `t1` and `t2` are `Time` objects where `t1` represents 1:00 P.M. and `t2` represents 2:15 P.M. The call `t1.minutesUntil(t2)` will return `75` and the call `t2.minutesUntil(t1)` will return `-75`.

The declaration for the `Flight` class is shown below. It has methods to access the departure time and the arrival time of a flight. You may assume that the departure time of a flight is earlier than its arrival time.

```
public class Flight
{
    /** @return time at which the flight departs
     */
    public Time getDepartureTime()
    { /* implementation not shown */ }

    /** @return time at which the flight arrives
     */
    public Time getArrivalTime()
    { /* implementation not shown */ }

    // There may be instance variables, constructors, and methods that are not shown.
}
```

A trip consists of a sequence of flights and is represented by the `Trip` class. The `Trip` class contains a `List` of `Flight` objects that are stored in chronological order. You may assume that for each flight after the first flight in the list, the departure time of the flight is later than the arrival time of the preceding flight in the list. A partial declaration of the `Trip` class is shown below. You will write two methods for the `Trip` class.

```
public class Trip
{
    /** The list of flights (if any) that make up this trip, stored in chronological
     order */
    private List<Flight> flights;

    /** @return the number of minutes from the departure of the first flight to the
     *         arrival of the last flight if there are one or more flights in the trip;
     *         0, if there are no flights in the trip
     */
    public int getDuration()
    { /* to be implemented in part (a) */ }

    /** Precondition: the departure time for each flight is later than the arrival
     *         time of its preceding flight
     * @return the smallest number of minutes between the arrival of
     *         a flight and the departure of the flight immediately after it,
     *         if there are two or more flights in the trip;
     *         -1, if there are fewer than two flights in the trip
     */
    public int getShortestLayover()
    { /* to be implemented in part (b) */ }

    // There may be instance variables, constructors, and methods that are not
    // shown.
}
```

- (a) Complete method `getDuration` below.

```
/** @return the number of minutes from the departure of the first
 *         flight to the arrival of the last flight if there are one or
 *         more flights in the trip;
 *         0, if there are no flights in the trip
 */
public int getDuration()
```

- (b) Write the `Trip` method `getShortestLayover`. A layover is the number of minutes from the arrival of one flight in a trip to the departure of the flight immediately after it. If there are two or more flights in the trip, the method should return the shortest layover of the trip; otherwise, it should return -1.

For example, assume that the instance variable `flights` of a `Trip` object `vacation` contains the following flight information.

	Departure Time	Arrival Time	Layover (minutes)
Flight 0	11:30 a.m.	12:15 p.m.	} 60
Flight 1	1:15 p.m.	3:45 p.m.	
Flight 2	4:00 p.m.	6:45 p.m.	} 210
Flight 3	10:15 p.m.	11:00 p.m.	

The call `vacation.getShortestLayover()` should return 15.

Complete method `getShortestLayover` below.

```
/** Precondition: the departure time for each flight is later than the arrival
 *                 time of its preceding flight
 * @return the smallest number of minutes between the arrival of a
 *         flight and the departure of the flight immediately after it, if
 *         there are two or more flights in the trip;
 *         -1, if there are fewer than two flights in the trip
 */
public int getShortestLayover()
```

2. Consider the following incomplete `StringUtil` class declaration. You will write implementations for the two methods listed in this class. Information about the `Person` class used in the `replaceNameNickname` method will be presented in part (b).

```
public class StringUtil
{
    /** @param str a String with length > 0
     *   @param oldstr a String
     *   @param newstr a String
     *   @return a new String in which all occurrences of the substring
     *           oldstr in str are replaced by the substring newstr
     */
    public static String apcsReplaceAll(String str,
                                       String oldStr,
                                       String newStr)
    { /* to be implemented in part (a) */ }

    /** @param str a String
     *   @param people a list of references to Person objects
     *   @return a copy of str modified so that each occurrence of a first
     *           name in people is replaced by the corresponding nickname
     */
    public static String replaceNameNickname(String str,
                                             List<Person>
                                             people)
    { /* to be implemented in part (b) */ }

    // There may be methods that are not shown.
}
```

- (a) Write the `StringUtil` method `apcsReplaceAll`, which examines a given `String` and replaces all occurrences of a designated substring with another specified substring. In writing your solution, you may NOT use the `replace`, `replaceAll`, or `replaceFirst` methods in the Java `String` class.

The following table shows several examples of the result of calling `StringUtil.apcsReplaceAll(str, oldstr, newstr)`.

Sample Questions for **Computer Science A**

str	oldstr	newstr	String returned	Comment
"to be or not to be"	"to"	"2"	"2 be or not 2 be"	Each occurrence of "to" in the original string has been replaced by "2"
"advanced calculus"	"math"	"science"	"advanced calculus"	No change, because the string "math" was not in the original string
"gogogo"	"go"	"gone"	"gonegonegone"	Each occurrence of "go" in the original string has been replaced by "gone"
"aaaaa"	"aaa"	"b"	"baa"	The first occurrence of "aaa" in the original string has been replaced by "b"

Complete method `apcsReplaceAll` below.

```

/** @param str a String with length > 0
 * @param oldstr a String
 * @param newstr a String
 * @ return a new String in which all occurrences of the substring
 *         oldstr in str are replaced by the substring newstr
 */
public static String apcsReplaceAll(String str,
                                    String oldStr,
                                    String newStr)

```

- (b) The following `Person` class contains information that includes a first (given) name and a nickname for the person.

```
public class Person
{
    /** @return the first name of this Person */
    public String getFirstName()
    { /* implementation not shown */ }

    /** @return the nickname of this Person */
    public String getNickname()
    { /* implementation not shown */ }

    // There may be instance variables, constructors, and methods not shown.
}
```

Write the `StringUtil` method `replaceNameNickname`, which takes a string and a list of `Person` objects that contain first names and a corresponding nicknames. The method is to replace all names by their nicknames in the given string. The list of `Person` objects is processed in order from lowest index to highest index. In writing your solution, you may NOT use the `replace`, `replaceAll`, or `replaceFirst` methods in the Java `String` class.

For example, assume the following table represents the data contained in the list people.

	<code>getFirstName()</code>	<code>getNickname()</code>
0	"Henry"	"Hank"
1	"Elizabeth"	"Liz"
2	"John"	"Jack"
3	"Margaret"	"Peggy"

Assume also that `String str` represents the following string.

```
"After Henry drove Elizabeth to dinner in Johnson City, Henry
paid for an appetizer and Elizabeth paid for dessert."
```

The call `StringUtil.replaceNameNickname(str, people)` should return the following string:

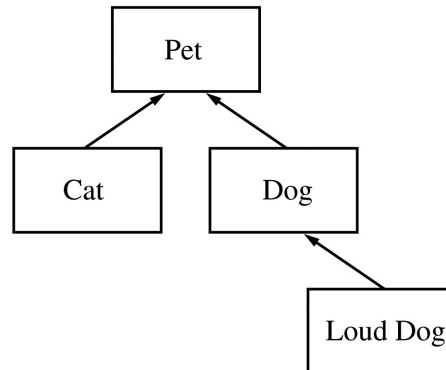
```
"After Hank drove Liz to dinner in Jackson City, Hank paid for
an appetizer and Liz paid for dessert."
```

In writing your solution, you must use the method `apcsReplaceAll` specified in the `StringUtil` class. Assume that `apcsReplaceAll` works as specified, regardless of what you wrote in part (a).

Complete method `replaceNameNickname` below.

```
/** @param str a String
 * @param people a list of references to Person objects
 * @return a copy of str modified so that each occurrence of a first
 *         name in people is replaced by the corresponding nickname
 */
public static String replaceNameNickname(String str,
                                         List<Person> people)
```

3. Consider the hierarchy of classes shown in the following diagram.



Note that a `Cat` “is-a” `Pet`, a `Dog` “is-a” `Pet`, and a `LoudDog` “is-a” `Dog`.

The class `Pet` is specified as an abstract class as shown in the following declaration. Each `Pet` has a name that is specified when it is constructed.

```

public abstract class Pet
{
    private String name;

    public Pet(String petName)
    { name = petName; }

    public String getName()
    { return name; }

    public abstract String speak();
}
  
```

The subclass `Dog` has the partial class declaration shown below.

```

public class Dog extends Pet
{
    public Dog(String petName)
    { /* implementation not shown */ }

    public String speak()
    { /* implementation not shown */ }
}
  
```

- (a) Given the class hierarchy shown above, write a complete class declaration for the class `Cat`, including implementations of its constructor and method(s). The `Cat` method `speak` returns “meow” when it is invoked.

- (b) Assume that class `Dog` has been declared as shown at the beginning of the question. If the `String` *dog-sound* is returned by the `Dog` method `speak`, then the `LoudDog` method `speak` returns a `String` containing *dog-sound* repeated two times.

Given the class hierarchy shown previously, write a complete class declaration for the class `LoudDog`, including implementations of its constructor and method(s).

- (c) Consider the following partial declaration of class `Kennel`.

```
public class Kennel
{
    private List<Pet> petList;

    /** For every Pet in the kennel, prints the name followed by
     * the result of a call to its speak method, one line per Pet.
     */
    public void allSpeak()
    { /* to be implemented in part (c) */ }

    // There may be instance variables, constructors, and methods that are
    // not shown.
}
```

Write the `Kennel` method `allSpeak`. For each `Pet` in the kennel, `allSpeak` prints a line with the name of the `Pet` followed by the result of a call to its `speak` method.

In writing `allSpeak`, you may use any of the methods defined for any of the classes specified for this problem. Assume that these methods work as specified, regardless of what you wrote in parts (a) and (b).

Complete method `allSpeak` below.

```
/** For each Pet in the kennel, prints the name followed by
 * the result of a call to its speak method, one line per Pet.
 */
public void allSpeak()
```

4. This question involves manipulation of one-dimensional and two-dimensional arrays. In part (a), you will write a method to shift the elements of a one-dimensional array. In parts (b) and (c), you will write methods to shift the elements of a two-dimensional array.

- (a) Consider the following incomplete `ArrayUtil` class, which contains a `static shiftArray` method.

```
public class ArrayUtil
{
    /** Shifts each array element to the next higher index, discarding the
     * original last element, and inserts the new number at the front.
     * @param arr the array to manipulate
     * Precondition: arr.length > 0
     * @param num the new number to insert at the front of arr
     * Postcondition: The original elements of arr have been shifted to
     * the next higher index, and arr[0] == num.
     * The original element at the highest index has been
     * discarded.
     */
    public static void shiftArray(int[] arr, int num)
    { /* to be implemented in part (a) */ }

    // There may be methods that are not shown.
}
```

Write the `ArrayUtil` method `shiftArray`. This method stores the integer `num` at the front of the array `arr` after shifting each of the original elements to the position with the next higher index. The element originally at the highest index is lost.

For example, if `arr` is the array `{11, 12, 13, 14, 15}` and `num` is 27, the call to `shiftArray` changes `arr` as shown below.

<u>Before call</u>	0	1	2	3	4
arr:	11	12	13	14	15
<u>After call</u>	0	1	2	3	4
arr:	27	11	12	13	14

Complete method `shiftArray` below.

```
/** Shifts each array element to the next higher index, discarding the
 * original last element, and inserts the new number at the front.
 * @param arr the array to manipulate
 * Precondition: arr.length > 0
 * @Param num the new number to insert at the front of arr
 * Postcondition: The original elements of arr have been shifted to
 * the next higher index, and arr[0] == num.
 * The original element at the highest index has been
 * discarded.
 */
public static void shiftArray(int[] arr, int num)
```

- (b) Consider the following incomplete `NumberMatrix` class, which represents a two-dimensional matrix of integers. Assume that the matrix contains at least one integer.

```
public class NumberMatrix
{
    private int[][] matrix;

    /** Constructs a number matrix. */
    public NumberMatrix(int[][] m)
    { matrix = m; }

    /** Shifts each matrix element to the next position in row-major order
     * and inserts the new number at the front. The last element in the last
     * row is discarded.
     * @param num the new number to insert at the front of matrix
     * Postcondition: The original elements of matrix have been shifted to
     * the next higher position in row-major order, and
     * matrix[0][0] == num.
     * The original last element in the last row is discarded.
     */
    public void shiftMatrix(int num)
    { /* to be implemented in part (b) */ }

    /** Rotates each matrix element to the next higher position in row-major
     * order.
     * Postcondition: The original elements of matrix have been shifted
     * to the next higher position in row-major order, and
     * matrix[0][0] == the original last element.
     */
    public void rotateMatrix()
    { /* to be implemented in part (c) */ }

    // There may be instance variables, constructors, and methods that are not
    // shown.
}
```

Write the `NumberMatrix` method `shiftMatrix`. This method stores a new value `num` into the two-dimensional array `matrix` after shifting the elements to the next higher position in row-major order. The element originally at the last position in row-major order is lost.

For example, if `m1` is a reference to a `NumberMatrix` object, then the call `m1.shiftMatrix(48)` will change the values in `matrix` as shown below.

		<u>Before call</u>		
		0	1	2
0	13	14	15	
1	16	17	18	
2	19	20	21	
3	22	23	24	

		<u>After call</u>		
		0	1	2
0	48	13	14	
1	15	16	17	
2	18	19	20	
3	21	22	23	

In writing `shiftMatrix`, you must call the `shiftArray` method in part (a). Assume that `shiftArray` works correctly regardless of what you wrote in part (a).

Complete method `shiftMatrix` below.

```

/** Shifts each matrix element to the next position in row-major order
 * and inserts the new number at the front. The last element in the last
 * row is discarded.
 * @param num the new number to insert at the front of matrix
 * Postcondition: The original elements of matrix have been shifted
 * to the next higher position in row-major order, and
 * matrix[0][0] == num.
 * The original last element in the last row is discarded.
 */
public void shiftMatrix(int num)

```

- (c) Write the `NumberMatrix` method `rotateMatrix`. This method rotates all the elements to the next position in row-major order. The element originally at the last position is stored in the first position of the matrix.

In writing `rotateMatrix`, you must call the `shiftMatrix` method in part (b). Assume that `shiftMatrix` works correctly regardless of what you wrote in part (b).

Complete method `rotateMatrix` below.

```

/** Rotates each matrix element to the next higher position in row-major
 * order.
 * Postcondition: The original elements of matrix have been shifted to
 * the next higher position in row-major order, and
 * matrix[0][0] == the original last element.
 */
public void rotateMatrix()

```

Suggested Solutions to Free-Response Questions

Note: There are many correct variations of these solutions.

Question 1

(a)

```
public int getDuration()
{
    if (flights.size() == 0)
    {
        return 0;
    }

    Time depart = flights.get(0).getDepartureTime();
    Time arrive = flights.get(flights.size() - 1).getArrivalTime();
    return depart.minutesUntil(arrive);
}
```

(b)

```
public int getShortestLayover()
{
    if (flights.size() < 2)
    {
        return -1;
    }

    int shortest = getDuration();
    for (int k = 1; k < flights.size(); k++)
    {
        Flight flight1 = flights.get(k - 1);
        Flight flight2 = flights.get(k);
        Time arrive = flight1.getArrivalTime();
        Time depart = flight2.getDepartureTime();
        int layover = arrive.minutesUntil(depart);
        if (layover < shortest)
        {
            shortest = layover;
        }
    }

    return shortest;
}
```

Question 2

(a)

Iterative version:

```
public static String apcsReplaceAll(String str,
                                   String oldStr,
                                   String newStr)
{
    String firstPart = "";
    String lastPart = str;
    int pos = lastPart.indexOf(oldStr);
    while (pos >= 0)
    {
        firstPart += lastPart.substring(0, pos);
        firstPart += newStr;
        lastPart = lastPart.substring(pos + oldStr.length());
        pos = lastPart.indexOf(oldStr);
    }
    return firstPart + lastPart;
}
```

Recursive version:

```
public static String apcsReplaceAll(String str,
                                   String oldStr,
                                   String newStr)
{
    int pos = str.indexOf(oldStr);
    if (pos < 0)
    {
        return str;
    }
    else
    {
        String firstPart = str.substring(0, pos);
        String restOfStr = str.substring(pos + oldStr.length());
        String lastPart = apcsReplaceAll(restOfStr, oldStr, newStr);
        return firstPart + newStr + lastPart;
    }
}
```

(b)

```

public static String replaceNameNickname(String str,
                                         List<Person> people)
{
    for (Person p : people)
    {
        str = apcsReplaceAll(str, p.getFirstName(), p.getNickname());
    }
    return str;
}

```

Question 3

(a)

```

public class Cat extends Pet
{
    public Cat(String petName)
    {    super(petName);    }

    public String speak()
    {
        return "meow";
    }
}

```

(b)

```

public class LoudDog extends Dog
{
    public LoudDog(String petName)
    {    super(petName);    }

    public String speak()
    {
        return super.speak() + super.speak();
    }
}

```

(c)

```
public void allSpeak()
{
    for (Pet a : petList)
    {
        System.out.println(a.getName() + a.speak());
    }
}
```

Question 4

(a)

```
public static void shiftArray(int[] arr, int num)
{
    for (int k = arr.length - 1; k > 0; k--)
    {
        arr[k] = arr[k - 1];
    }

    arr[0] = num;
}
```

(b)

```
public void shiftMatrix(int num)
{
    for (int[] row: matrix)
    {
        int temp = row[row.length - 1];
        ArrayUtil.shiftArray(row, num);
        num = temp;
    }
}
```

(c)

```
public void rotateMatrix()
{
    shiftMatrix(matrix[matrix.length - 1][matrix[0].length - 1]);
}
```

APPENDIX A

AP Computer Science Java Subset

The AP Java subset is intended to outline the features of Java that may appear on the AP Computer Science A Exam. The AP Java subset is NOT intended as an overall prescription for computer science courses — the subset itself will need to be supplemented in order to address all topics in a typical introductory curriculum. For example, input and output must be part of a course on computer programming. However, there are many ways to handle input and output in Java. Because of this variation, details of input and output (except for basic text output using `System.out.print` and `System.out.println`) are not tested on the AP Computer Science A Exam.

This appendix describes the Java subset that students will be expected to understand when they take the AP Computer Science A Exam. A number of features are also mentioned that are potentially relevant in an introductory computer science course but are not tested on the exam. Omission of a feature from the AP Java subset does not imply any judgment that the feature is inferior or not worthwhile.

The AP Java subset was selected to

1. enable the test designers to formulate meaningful questions.
2. help students with test preparation.
3. enable instructors to follow a variety of approaches in their courses.

To help students with test preparation, the AP Java subset was intentionally kept small. Language constructs and library features were omitted that did not add significant functionality and that can, for the formulation of exam questions, be expressed by other mechanisms in the subset.

The AP Java subset gives instructors flexibility in how they use Java in their course. For example, some courses teach how to perform input/output using streams or readers/writers, others teach graphical user interface construction, and yet others rely on a tool or library that handles input/output. For the purpose of the AP Computer Science A Exam, these choices are incidental and are not central for the problem solving process or for the mastery of computer science concepts. The AP Java subset does not address handling of user input at all. That means that the subset is not complete. To create actual programs, instructors need to present additional mechanisms in their courses.

The following section contains the language features that may be tested on the AP Computer Science A Exam. The Java Quick Reference contains a list specifying which Standard Java classes, interfaces, constants, and methods may be used on the exam. This document is available to students when they take the exam, is available at AP Central, and is included in Appendix B.

Language Features and other Testable Topics

Tested in the AP CS A Exam	Notes	Not tested in the AP CS A Exam, but potentially relevant/useful
Comments <code>/* */</code> , <code>/** */</code> , and <code>/** */</code> Javadoc <code>@param</code> and <code>@return</code> comment tags		Javadoc tool
Primitive Types <code>int</code> , <code>double</code> , <code>boolean</code>		<code>char</code> , <code>byte</code> , <code>short</code> , <code>long</code> , <code>float</code>
Operators Arithmetic: <code>+</code> , <code>-</code> , <code>*</code> , <code>/</code> , <code>%</code> Increment/Decrement: <code>++</code> , <code>--</code> Assignment: <code>=</code> , <code>+=</code> , <code>-=</code> , <code>*=</code> , <code>/=</code> , <code>%=</code> Relational: <code>==</code> , <code>!=</code> , <code><</code> , <code><=</code> , <code>></code> , <code>>=</code> Logical: <code>!</code> , <code>&&</code> , <code> </code> Numeric casts: <code>(int)</code> , <code>(double)</code> String concatenation: <code>+</code>	1, 2, 3, 4, 5	<code>&</code> , <code> </code> , <code>^</code> <code>(char)</code> , <code>(float)</code> <code>StringBuilder</code> Shift: <code><<</code> , <code>>></code> , <code>>>></code> Bitwise: <code>~</code> , <code>&</code> , <code> </code> , <code>^</code> Conditional: <code>?:</code>
Object Comparison object identity (<code>==</code> , <code>!=</code>) vs. object equality (<code>equals</code>), <code>String compareTo</code>		implementation of <code>equals</code> <code>Comparable</code>
Escape Sequences <code>\"</code> , <code>\\</code> , <code>\n</code> inside strings		<code>\'</code> , <code>\t</code> , <code>\unnnn</code>
Input / Output <code>System.out.print</code> , <code>System.out.println</code>	6	<code>Scanner</code> , <code>System.in</code> , <code>System.out</code> , <code>System.err</code> , <code>Stream</code> input/output, GUI input/output, parsing input: <code>Integer.parseInt</code> , <code>Double.parseDouble</code> formatting output: <code>System.out.printf</code>

Tested in the AP CS A Exam	Notes	Not tested in the AP CS A Exam, but potentially relevant/useful
Exceptions ArithmeticException, NullPointerException, IndexOutOfBoundsException, ArrayIndexOutOfBoundsException, IllegalArgumentException		try/catch/finally throw, throws assert
Arrays 1-dimensional arrays, 2-dimensional rectangular arrays, initializer list: { ... }, row-major order of 2-dimensional array elements	7, 8	new <i>type</i> [] { ... } , ragged arrays (non-rectangular), arrays with 3 or more dimensions
Control Statements if, if/else, while, for, enhanced for (for-each), return		switch, break, continue, do-while
Variables parameter variables, local variables, private instance variables: visibility (private) static (class) variables: visibility (public, private), final		final parameter variables, final local variables, final instance variables
Methods visibility (public, private), static, non-static, method signatures, overloading, overriding, parameter passing	9, 10	visibility (protected), public static void main(String[] args), command line arguments, variable number of parameters, final
Constructors super(), super(<i>args</i>)	11, 12	default initialization of instance variables, initialization blocks, this(<i>args</i>)

Tested in the AP CS A Exam	Notes	Not tested in the AP CS A Exam, but potentially relevant/useful
Classes new, visibility (public), accessor methods, modifier (mutator) methods Design/create/modify class. Create subclass of a superclass (abstract, non-abstract). Create class that implements an interface.	13, 14	final, visibility (private, protected), nested classes, inner classes, enumerations
Interfaces Design/create/modify an interface.	13, 14	
Inheritance Understand inheritance hierarchies. Design/create/modify subclasses. Design/create/modify classes that implement interfaces.		
Packages import <i>packageName.className</i>		import <i>packageName.*</i> , static import, package <i>packageName</i> , class path
Miscellaneous OOP “is-a” and “has-a” relationships, null, this, super. <i>method(args)</i>	15, 16	instanceof (<i>class</i>) cast this. <i>var</i> , this. <i>method(args)</i> ,
Standard Java Library Object, Integer, Double, String, Math, List<E>, ArrayList<E>	17, 18	clone, autoboxing, Collection<E>, Arrays, Collections

Notes

1. Students are expected to understand the operator precedence rules of the listed operators.
2. The increment/decrement operators `++` and `--` are part of the AP Java subset. These operators are used only for their side effect, not for their value. That is, the postfix form (for example, `x++`) is always used, and the operators are not used inside other expressions. For example, `arr[x++]` is not used.
3. Students need to understand the “short circuit” evaluation of the `&&` and `||` operators.
4. Students are expected to understand “truncation towards 0” behavior as well as the fact that positive floating-point numbers can be rounded to the nearest integer as

`(int)(x + 0.5)`, negative numbers as `(int)(x - 0.5)`.

5. String concatenation `+` is part of the AP Java subset. Students are expected to know that concatenation converts numbers to strings and invokes `toString` on objects.
6. User input is not included in the AP Java subset. There are many possible ways for supplying user input: e.g., by reading from a `Scanner`, reading from a stream (such as a file or a URL), or from a dialog box. There are advantages and disadvantages to the various approaches. The exam does not prescribe any one approach. Instead, if reading input is necessary, it will be indicated in a way similar to the following:

```
double x = /* call to a method that reads a floating-point number */;
```

or

```
double x = ...; // read user input
```

7. Both arrays of primitive types (e.g., `int[]`, `int[][]`) and arrays of objects (e.g., `Student[]`, `Student[][]`) are in the subset.
8. Students need to understand that 2-dimensional arrays are stored as arrays of arrays. For the purposes of the AP CS A Exam, students should assume that 2-dimensional arrays are rectangular (not ragged) and the elements are indexed in row-major order. For example, given the declaration

```
int[][] m = {{1, 2, 3}, {4, 5, 6}};
```

`m.length` is 2 (the number of rows), `m[0].length` is 3 (the number of columns), `m[r][c]` represents the element at row `r` and column `c`, and `m[r]` represents row `r` (e.g., `m[0]` is of type `int[]` and references the array `{1, 2, 3}`).

Students are expected to be able to access a row of a 2-dimensional array, assign it to a 1-dimensional array reference, pass it as a parameter, and use loops (including for-each) to traverse the rows. However, students are not expected to analyze or implement code that replaces an entire row in a 2-dimensional array, such as

```
int[][] m = {{1, 2, 3}, {4, 5, 6}};
```

```
int[] a = {7, 8, 9};
```

```
m[0] = a; // Outside the Subset
```

9. The `main` method and command-line arguments are not included in the subset. In free-response questions, students are not expected to invoke programs. In the *AP Computer Science Labs*, program invocation with `main` may occur, but the `main` method will be kept very simple.
10. Students are required to understand when the use of `static` methods is appropriate. In the exam, `static` methods are always invoked through a class (explicitly or implicitly), never an object (i.e., `ClassName.staticMethod()` or `staticMethod()`, not `obj.staticMethod()`).
11. If a subclass constructor does not explicitly invoke a superclass constructor, the Java compiler automatically inserts a call to the no-argument constructor of the superclass.
12. Students are expected to implement constructors that initialize all instance variables. Class constants are initialized with an initializer:

```
public static final int MAX_SCORE = 5;
```

The rules for default initialization (with `0`, `false` or `null`) are not included in the subset. Initializing instance variables with an initializer is not included in the subset. Initialization blocks are not included in the subset.
13. Students are expected to write interfaces or class declarations when given a general description of the interface or class.
14. Students are expected to extend classes and implement interfaces. Students are also expected to have knowledge of inheritance that includes understanding the concepts of method overriding and polymorphism. Students are expected to implement their own subclasses.

Students are expected to read the definition of an abstract class and understand that the abstract methods need to be implemented in a subclass. Students are similarly expected to read the definition of an interface and understand that the abstract methods need to be implemented in an implementing class.
15. Students are expected to understand that conversion from a subclass reference to a superclass reference is legal and does not require a cast. Class casts (generally from `Object` to another class) are not included in the AP Java subset. Array type compatibility and casts between array types are not included in the subset.
16. The use of `this` is restricted to passing the implicit parameter in its entirety to another method (e.g., `obj.method(this)`) and to descriptions such as “the implicit parameter `this`”. Students are not required to know the idiom “`this.var = var`”, where `var` is both the name of an instance variable and a parameter variable.
17. The use of generic collection classes and interfaces is in the AP Java subset, but students need not implement generic classes or methods.
18. Students are expected to know a subset of the constants and methods of the listed Standard Java Library classes and interfaces. Those constants and methods are enumerated in the Java Quick Reference (Appendix B).

APPENDIX B

Exam Appendix – Java Quick Reference

Accessible methods from the Java library that may be included on the exam

class java.lang.Object

- boolean equals(Object other)
- String toString()

class java.lang.Integer

- Integer(int value)
- int intValue()
- Integer.MIN_VALUE // minimum value represented by an int or Integer
- Integer.MAX_VALUE // maximum value represented by an int or Integer

class java.lang.Double

- Double(double value)
- double doubleValue()

class java.lang.String

- int length()
- String substring(int from, int to) // returns the substring beginning at from
// and ending at to-1
- String substring(int from) // returns substring(from, length())
- int indexOf(String str) // returns the index of the first occurrence of str;
// returns -1 if not found
- int compareTo(String other) // returns a value < 0 if this is less than other
// returns a value = 0 if this is equal to other
// returns a value > 0 if this is greater than other

class java.lang.Math

- static int abs(int x)
- static double abs(double x)
- static double pow(double base, double exponent)
- static double sqrt(double x)
- static double random() // returns a double in the range [0.0, 1.0)

interface java.util.List<E>

- int size()
- boolean add(E obj) // appends obj to end of list; returns true
- void add(int index, E obj) // inserts obj at position index (0 ≤ index ≤ size),
// moving elements at position index and higher
// to the right (adds 1 to their indices) and adjusts size
- E get(int index)
- E set(int index, E obj) // replaces the element at position index with obj
// returns the element formerly at the specified position
- E remove(int index) // removes element from position index, moving elements
// at position index + 1 and higher to the left
// (subtracts 1 from their indices) and adjusts size
// returns the element formerly at the specified position

class java.util.ArrayList<E> implements java.util.List<E>

APPENDIX C — SAMPLE SEARCH AND SORT ALGORITHMS

Sequential Search

The Sequential Search Algorithm below finds the index of a value in an array of integers as follows:

1. Traverse `elements` until `target` is located, or the end of `elements` is reached.
2. If `target` is located, return the index of `target` in `elements`;
Otherwise return `-1`.

```
/**
 * Finds the index of a value in an array of integers.
 *
 * @param elements an array containing the items to be searched.
 * @param target the item to be found in elements.
 * @return an index of target in elements if found; -1 otherwise.
 */
public static int sequentialSearch(int[] elements, int target)
{
    for (int j = 0; j < elements.length; j++)
    {
        if (elements[j] == target)
        {
            return j;
        }
    }

    return -1;
}
```

Binary Search

The Binary Search Algorithm below finds the index of a value in an array of integers sorted in ascending order as follows:

1. Set `left` and `right` to the minimum and maximum indexes of `elements` respectively.
2. Loop until `target` is found, or `target` is determined not to be in `elements` by doing the following for each iteration:
 - a. Set `middle` to the index of the middle item in `elements[left] ... elements[right]` inclusive.
 - b. If `target` would have to be in `elements[left] ... elements[middle - 1]` inclusive, then set `right` to the maximum index for that range.
 - c. Otherwise, if `target` would have to be in `elements[middle + 1] ... elements[right]` inclusive, then set `left` to the minimum index for that range.
 - d. Otherwise, return `middle` because `target == elements[middle]`.
3. Return `-1` if `target` is not contained in `elements`.

```

/**
 * Find the index of a value in an array of integers sorted in ascending order.
 *
 * @param elements an array containing the items to be searched.
 *      Precondition: items in elements are sorted in ascending order.
 * @param target the item to be found in elements.
 * @return an index of target in elements if target found;
 *         -1 otherwise.
 */
public static int binarySearch(int[] elements, int target)
{
    int left = 0;
    int right = elements.length - 1;
    while (left <= right)
    {
        int middle = (left + right) / 2;
        if (target < elements[middle])
        {
            right = middle - 1;
        }
        else if (target > elements[middle])
        {
            left = middle + 1;
        }
        else
        {
            return middle;
        }
    }
    return -1;
}

```

Selection Sort

The Selection Sort Algorithm below sorts an array of integers into ascending order as follows:

1. Loop from $j = 0$ to $j = \text{elements.length} - 2$, inclusive, completing $\text{elements.length} - 1$ passes.
2. In each pass, swap the item at index j with the minimum item in the rest of the array ($\text{elements}[j+1]$ through $\text{elements}[\text{elements.length} - 1]$).

At the end of each pass, items in $\text{elements}[0]$ through $\text{elements}[j]$ are in ascending order and each item in this sorted portion is at its final position in the array

```
/**
 * Sort an array of integers into ascending order.
 *
 * @param elements an array containing the items to be sorted.
 *
 * Postcondition: elements contains its original items and items in elements
 *                   are sorted in ascending order.
 */
public static void selectionSort(int[] elements)
{
    for (int j = 0; j < elements.length - 1; j++)
    {
        int minIndex = j;
        for (int k = j + 1; k < elements.length; k++)
        {
            if (elements[k] < elements[minIndex])
            {
                minIndex = k;
            }
        }

        int temp = elements[j];
        elements[j] = elements[minIndex];
        elements[minIndex] = temp;
    }
}
```

Insertion Sort

The Insertion Sort Algorithm below sorts an array of integers into ascending order as follows:

1. Loop from $j = 1$ to $j = \text{elements.length} - 1$ inclusive, completing $\text{elements.length} - 1$ passes.
2. In each pass, move the item at index j to its proper position in $\text{elements}[0]$ to $\text{elements}[j]$:
 - a. Copy item at index j to temp , creating a “vacant” element at index j (denoted by possibleIndex).
 - b. Loop until the proper position to maintain ascending order is found for temp .
 - c. In each inner loop iteration, move the “vacant” element one position lower in the array.
3. Copy temp into the identified correct position (at possibleIndex).

At the end of each pass, items at $\text{elements}[0]$ through $\text{elements}[j]$ are in ascending order.

```
/**
 * Sort an array of integers into ascending order.
 *
 * @param elements an array containing the items to be sorted.
 *
 * Postcondition: elements contains its original items and items in elements
 *                   are sorted in ascending order.
 */
public static void insertionSort(int[] elements)
{
    for (int j = 1; j < elements.length; j++)
    {
        int temp = elements[j];
        int possibleIndex = j;
        while (possibleIndex > 0 && temp < elements[possibleIndex - 1])
        {
            elements[possibleIndex] = elements[possibleIndex - 1];
            possibleIndex--;
        }
        elements[possibleIndex] = temp;
    }
}
```

Merge Sort

The Merge Sort Algorithm below sorts an array of integers into ascending order as follows:

`mergeSort`

This top-level method creates the necessary temporary array and calls the `mergeSortHelper` recursive helper method.

`mergeSortHelper`

This recursive helper method uses the Merge Sort Algorithm to sort `elements[from] ... elements[to]` inclusive into ascending order:

1. If there is more than one item in this range,
 - a. divide the items into two adjacent parts, and
 - b. call `mergeSortHelper` to recursively sort each part, and
 - c. call the `merge` helper method to merge the two parts into sorted order.
2. Otherwise, exit because these items are sorted.

`merge`

This helper method merges two adjacent array parts, each of which has been sorted into ascending order, into one array part that is sorted into ascending order:

1. As long as both array parts have at least one item that hasn't been copied, compare the first un-copied item in each part and copy the minimal item to the next position in `temp`.
2. Copy any remaining items of the first part to `temp`.
3. Copy any remaining items of the second part to `temp`.
4. Copy the items from `temp[from] ... temp[to]` inclusive to the respective locations in `elements`.

```
/**
 * Sort an array of integers into ascending order.
 *
 * @param elements an array containing the items to be sorted.
 *
 * Postcondition: elements contains its original items and items in elements
 * are sorted in ascending order.
 */
public static void mergeSort(int[] elements)
{
    int n = elements.length;
    int[] temp = new int[n];
    mergeSortHelper(elements, 0, n - 1, temp);
}
```

```

/**
 * Sorts elements[from] ... elements[to] inclusive into ascending order.
 *
 * @param elements an array containing the items to be sorted.
 * @param from the beginning index of the items in elements to be sorted.
 * @param to the ending index of the items in elements to be sorted.
 * @param temp a temporary array to use during the merge process.
 *
 * Precondition:
 *     (elements.length == 0 or
 *      0 <= from <= to <= elements.length) and
 *     elements.length == temp.length
 * Postcondition: elements contains its original items and the items in elements
 *     [from] ... <= elements[to] are sorted in ascending order.
 */
private static void mergeSortHelper(int[] elements,
                                    int from, int to, int[] temp)
{
    if (from < to)
    {
        int middle = (from + to) / 2;
        mergeSortHelper(elements, from, middle, temp);
        mergeSortHelper(elements, middle + 1, to, temp);
        merge(elements, from, middle, to, temp);
    }
}

```

```

/**
 * Merges two adjacent array parts, each of which has been sorted into ascending
 * order, into one array part that is sorted into ascending order.
 *
 * @param elements an array containing the parts to be merged.
 * @param from the beginning index in elements of the first part.
 * @param mid the ending index in elements of the first part.
 *           mid+1 is the beginning index in elements of the second part.
 * @param to the ending index in elements of the second part.
 * @param temp a temporary array to use during the merge process.
 *
 * Precondition: 0 <= from <= mid <= to <= elements.length and
 * elements[from] ... <= elements[mid] are sorted in ascending order and
 * elements[mid + 1] ... <= elements[to] are sorted in ascending order and
 * elements.length == temp.length
 * Postcondition: elements contains its original items and
 * elements[from] ... <= elements[to] are sorted in ascending order and
 * elements[0] ... elements[from - 1] are in original order and
 * elements[to + 1] ... elements[elements.length - 1] are in original order.
 */
private static void merge(int[] elements,
                          int from, int mid, int to, int[] temp)
{
    int i = from;
    int j = mid + 1;
    int k = from;

    while (i <= mid && j <= to)
    {
        if (elements[i] < elements[j])
        {
            temp[k] = elements[i];
            i++;
        }
        else
        {
            temp[k] = elements[j];
            j++;
        }
        k++;
    }
}

```

```
while (i <= mid)
{
    temp[k] = elements[i];
    i++;
    k++;
}

while (j <= to)
{
    temp[k] = elements[j];
    j++;
    k++;
}

for (k = from; k <= to; k++)
{
    elements[k] = temp[k];
}
}
```

Resources for AP Teachers

AP Central (apcentral.collegeboard.org)

Essential course resources, including the Course Description and other official publications

- AP Exam Information and Resources, including practice exams
- Classroom resources, including curriculum modules, labs, and more — from both the AP program and AP teachers
- A database of upcoming professional development workshops and summer institutes

AP Course Audit

- Curricular/resource requirements
- Four annotated sample syllabi
- Syllabus development guides
- Example textbook lists
- Syllabus development tutorial

Advances in AP

Learn about forthcoming changes to AP courses

AP Teacher Communities

Join a lively community of fellow teachers by discussing all things AP on the discussion boards. Share strategies, ask questions, and engage in lively discussions with teachers worldwide.

Higher Ed

- Detailed information about each course and exam
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- Research reports on AP students' performance in subsequent college course and their progress towards a degree
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AP Computer Science A

Student Achievement
Committee

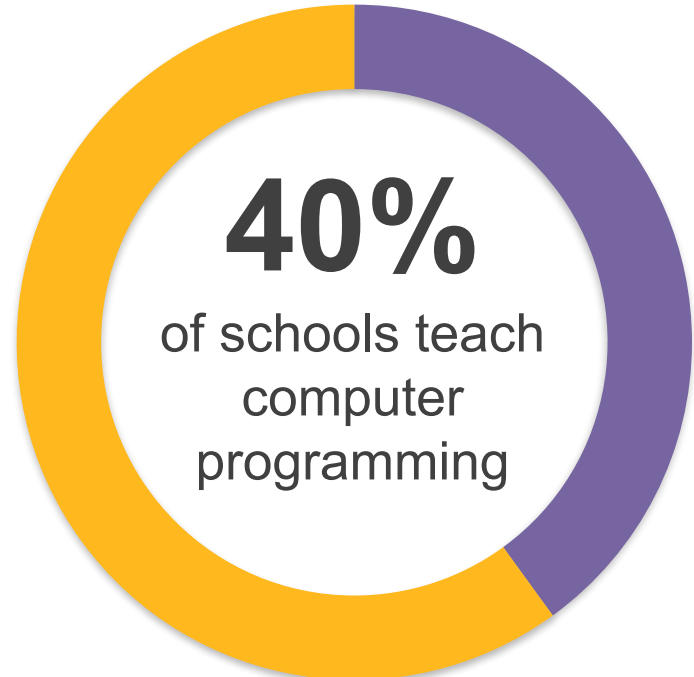
April 23, 2018



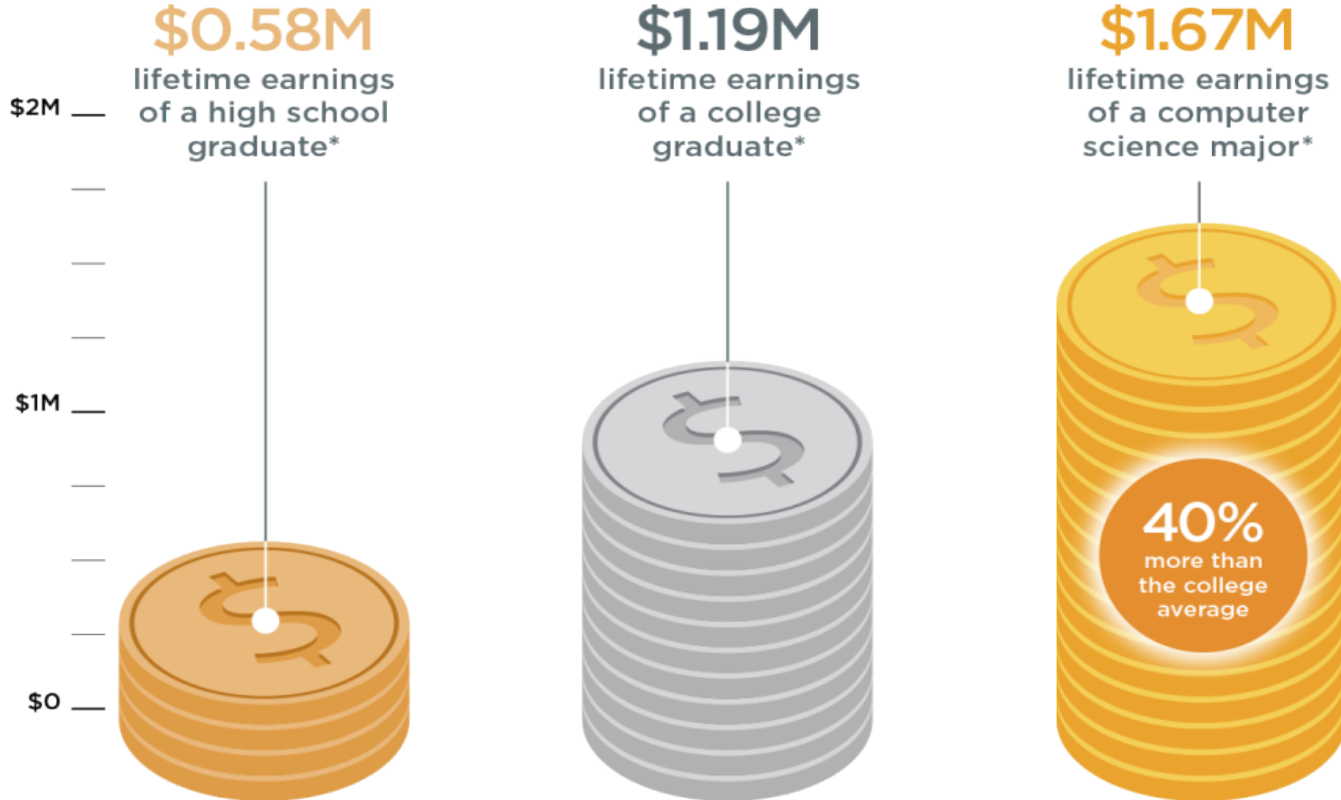
Computers and software are
changing everything...



...but the majority of schools don't teach
computer science:



The value of a computer science education



*Net present value today

Computer Science in CT

- Connecticut currently has **6,501 open computing jobs** (3.2 times the average demand rate in Connecticut).
- The average salary for a computing occupation in CT is **\$96,862**, which is significantly higher than the average salary in the state (\$57,960). The existing open jobs alone represent a **\$629,699,862 opportunity** in terms of annual salaries.
- Connecticut had only **404 computer science graduates** in 2015; only **15%** were female.

What makes this course interesting?

- Learn to design and implement computer programs that solve problems relevant to today's society, including art, media, and engineering
- Learn to apply programming tools and solve complex problems through hands-on experiences and examples

Sample Activities

- Program specific tasks and commands in an online robot simulation
- Engage in role-play exercises to understand how objects communicate with one another

Link to Curriculum

Goals of Computer Science A

Students will be able to

- Design, implement, and analyze solutions to problems;
- Use and implement commonly used algorithms;
- Develop and select appropriate algorithms and data structures to solve new problems;
- Write solutions fluently in an object-oriented paradigm;
- Write, run, test, and debug solutions in the Java programming language, utilizing standard Java library classes and interfaces from the AP Java subset;
- Read and understand programs consisting of several classes and interacting objects;
- Read and understand a description of the design and development process leading to such a program; and
- Understand the ethical and social implications of computer use.



Questions?

AP[®]

CollegeBoard

AP[®] U.S. Government and Politics

Effective
Fall 2018

SKILL AND CONTENT
EXPECTATIONS
FOR LEARNING AND
ASSESSMENT

COURSE FRAMEWORK



Endorsed by the
National Constitution Center

AP[®] U.S. Government and Politics Course Framework

Effective Fall 2018

Endorsement by the National Constitution Center

The course framework within this course and exam description is a model of political and ideological balance. It will not only help students understand the U.S. Constitution and the U.S. political system, but will also help them become informed citizens who are willing to preserve, protect, and defend the rights and liberties at the core of our nation's charter. That is why we are delighted to partner with the College Board on a series of classroom lessons and materials that support instruction in AP U.S. Government and Politics and help bring balanced constitutional content to students across America.

AP COURSE AND EXAM DESCRIPTIONS ARE UPDATED PERIODICALLY.

Please visit AP Central (apcentral.collegeboard.org) to determine whether a more recent course and exam description is available.

About the College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success—including the SAT® and the Advanced Placement Program®. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools. For further information, visit www.collegeboard.org.

AP® Equity and Access Policy

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underserved. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

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About AP

The College Board’s Advanced Placement Program® (AP) enables students to pursue college-level studies while still in high school. Through more than 30 courses, each culminating in a rigorous exam, AP provides willing and academically prepared students with the opportunity to earn college credit and/or advanced placement. Taking AP courses also demonstrates to college admission officers that students have sought out the most rigorous course work available to them.

Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. Talented and dedicated AP teachers help AP students in classrooms around the world develop and apply the content knowledge and skills they will need later in college.

Each AP course concludes with a college-level assessment developed and scored by college and university faculty, as well as experienced AP teachers. AP Exams are an essential part of the AP experience, enabling students to demonstrate their mastery of college-level course work. Most four-year colleges and universities in the United States and universities in more than 60 countries recognize AP in the admission process and grant students credit, placement, or both on the basis of successful AP Exam scores. Visit www.collegeboard.org/apcreditpolicy to view AP credit and placement policies at more than 1,000 colleges and universities.

Performing well on an AP Exam means more than just the successful completion of a course; it is a gateway to success in college. Research consistently shows that students who receive a score of 3 or higher on AP Exams typically experience greater academic success in college and have higher graduation rates than their non-AP peers.¹ Additional AP studies are available at www.collegeboard.org/research.

Offering AP Courses and Enrolling Students

This AP course and exam description details the essential information required to understand the objectives and expectations of an AP course. The AP Program unequivocally supports the principle that each school implements its own curriculum that will enable students to develop the content knowledge and skills described here.

Schools wishing to offer AP courses must participate in the AP Course Audit, a process through which AP teachers’ syllabi are reviewed by college faculty. The AP Course Audit was created to provide teachers and administrators with clear guidelines on curricular and resource requirements for AP courses and to help colleges and universities validate courses marked “AP” on students’ transcripts. This process ensures that AP teachers’ syllabi meet or exceed the curricular and resource expectations that college and secondary school faculty have established for college-level courses. For more information on the AP Course Audit, visit www.collegeboard.org/apcourseaudit.

¹See the following research studies for more details:

Linda Hargrove, Donn Godin, and Barbara Dodd, *College Outcomes Comparisons by AP and Non-AP High School Experiences* (New York: The College Board, 2008).

Chrys Dougherty, Lynn Mellor, and Shuling Jian, *The Relationship Between Advanced Placement and College Graduation* (Austin, Texas: National Center for Educational Accountability, 2006).

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underserved. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

How AP Courses and Exams Are Developed

AP courses and exams are designed by committees of college faculty and expert AP teachers who ensure that each AP subject reflects and assesses college-level expectations. A list of each subject's current AP Development Committee members is available on apcentral.collegeboard.org. AP Development Committees define the scope and expectations of the course, articulating through a course framework what students should know and be able to do upon completion of the AP course. Their work is informed by data collected from a range of colleges and universities to ensure that AP coursework reflects current scholarship and advances in the discipline.

The AP Development Committees are also responsible for drawing clear and well-articulated connections between the AP course and AP Exam—work that includes designing and approving exam specifications and exam questions. The AP Exam development process is a multiyear endeavor; all AP Exams undergo extensive review, revision, piloting, and analysis to ensure that questions are high quality and fair and that there is an appropriate spread of difficulty across the questions.

Throughout AP course and exam development, the College Board gathers feedback from various stakeholders in both secondary schools and higher education institutions. This feedback is carefully considered to ensure that AP courses and exams are able to provide students with a college-level learning experience and the opportunity to demonstrate their qualifications for advanced placement upon college entrance.

How AP Exams Are Scored

The exam scoring process, like the course and exam development process, relies on the expertise of both AP teachers and college faculty. While multiple-choice questions are scored by machine, the free-response questions and through-course performance assessments, as applicable, are scored by thousands of college faculty and expert AP teachers. Most are scored at the annual AP Reading, while a small portion are scored online. AP Exam Readers are thoroughly trained, and their work is monitored throughout the Reading for fairness and consistency. In each subject, a highly respected college faculty member serves as Chief Reader, and with the help of AP readers in leadership positions, maintains the accuracy of the scoring standards. Scores on the free-response questions and performance assessments are weighted and combined with the results of the computer-scored multiple-choice questions, and this raw score is converted into a composite AP score of 5, 4, 3, 2, or 1.

The score-setting process is both precise and labor intensive, involving numerous psychometric analyses of specific AP Exam results from a particular group of students who took that exam. Additionally, to ensure alignment with college-level standards, part of the score setting process involves comparing the performance of AP students with the performance of students enrolled in comparable college courses throughout the United States. In general, the AP composite score points are set so that the lowest raw score needed to earn an AP score of 5 is equivalent to the average score among college students earning grades of A in the college course. Similarly, AP Exam scores of 4 are equivalent to college grades of A-, B+, and B. AP Exam scores of 3 are equivalent to college grades of B-, C+, and C.

Using and Interpreting AP Scores

The extensive work done by college faculty and AP teachers in the development of the course and the exam and throughout the scoring process ensures that AP Exam scores accurately represent students' achievement in the equivalent college course. While colleges and universities are responsible for setting their own credit and placement policies, AP scores signify how qualified students are to receive college credit or placement:

AP Score	Recommendation
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly qualified
1	No recommendation

Additional Resources

Visit apcentral.collegeboard.org for more information about the AP Program.

About the AP U.S. Government and Politics Course

AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students will study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behaviors. They will also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they will complete a political science research or applied civics project.

College Course Equivalent

AP U.S. Government and Politics is equivalent to a one-semester introductory college course in U.S. government.

Prerequisites

There are no prerequisite courses for AP U.S. Government and Politics. Students should be able to read a college-level textbook and write grammatically correct, complete sentences.

The Project Requirement

The required project adds a civic component to the course, engaging students in exploring how they can affect, and are affected by, government and politics throughout their lives. The project might have students collect data on a teacher-approved political science topic, participate in a community service activity, or observe and report on the policymaking process of a governing body. Students should plan a presentation that relates their experiences or findings to what they are learning in the course.

Participating in the AP Course Audit

Schools wishing to offer AP courses must participate in the AP Course Audit. Participation in the AP Course Audit requires the online submission of two documents: the AP Course Audit form and the teacher’s syllabus. The AP Course Audit form is submitted by the AP teacher and the school principal (or designated administrator) to confirm awareness and understanding of the curricular and resource requirements. The syllabus, detailing how course requirements are met, is submitted by the AP teacher for review by college faculty.

Please visit http://www.collegeboard.com/html/apcourseaudit/courses/us_government.html for more information to support syllabus development including:

- **Annotated Sample Syllabi** — Provide examples of how the curricular requirements can be demonstrated within the context of actual syllabi.
- **Curricular and Resource Requirements** — Identifies the set of curricular and resource expectations that college faculty nationwide have established for a college-level course.
- **Example Textbook List** — Includes a sample of AP college-level textbooks that meet the content requirements of the AP course.
- **Syllabus Development Guide** — Includes the guidelines reviewers use to evaluate syllabi along with three samples of evidence for each requirement. This guide also specifies the level of detail required in the syllabus to receive course authorization.
- **Syllabus Self Evaluation Checklist** — Includes a list of items that teachers should verify prior to submitting the syllabus for review.

AP U.S. Government and Politics Course Framework

Introduction

We offer this course framework for AP U.S. Government and Politics to the American public and education community. Dedicated teams of college professors and AP high school teachers have worked on this framework for years, gathering wide ranging input and feedback from the public at large.

The committee members and the College Board staff worked with a special intensity and care. We realize that this course is more than just one more class period in a crowded school day; it must be a space in which students immerse themselves in the ideas and knowledge essential to our democracy.

AP U.S. Government and Politics offers students the opportunity to see how individuals and their ideas can shape the world in which they live; it invites them to explore central questions of liberty and justice in practice. The Supreme Court opinions explored in this course are not museum pieces but deeply felt expressions. They all represent real choices and decisions with enormous consequences. We aim for students to read them and discuss them with openness and insight.

The ideas at the heart of the American Founding remain as vital and urgent as they were more than 200 years ago; it is our task as educators to make them vivid once more. As we reflect on this course, five principles become clear:

1. Command of the Constitution lies at the center of this course, the touchstone for informed citizenship and scholarship.
2. Students are not spectators but analysts; they must analyze the documents and debates that formed our republic and animate public life today.
3. Knowledge matters; we define a focused body of shared knowledge while leaving room for the variety of state standards and the imaginations of individual teachers.
4. We can't avoid difficult topics, but we can insist on a principled attention to the best arguments on both sides as students read and write.
5. Civic knowledge is every student's right and responsibility; we therefore have the obligation to make the best learning resources, such as the National Constitution Center's Interactive Constitution, freely available for all.

While this course framework is new, its aims are timeless and its roots deeply embedded in the American experiment and the intellectual traditions that animated our founding.

Aristotle famously described humankind as a “political animal.” He argued that a person who lives without a political life is incomplete and alone, like an isolated piece on a game board. For Aristotle, participation in civic life is necessary to live fully. In more modern times, President Eisenhower declared that “politics ought to be the part-time profession of every person who would protect the rights and privileges of free people and who would preserve what is good and fruitful in our national heritage.”

We are grateful to the AP community of teachers and their colleagues in colleges across our country, whose shared devotion to students forged this course framework. A framework is only an outline of content and skills; the real craft is in the decisions that knowledgeable teachers make every day in the classroom as they develop their curriculum. We are confident that in the hands of AP teachers, this course framework will open doors of opportunity for students throughout their lives.

National Constitution Center and the College Board

In partnership with the National Constitution Center, the College Board has developed a series of classroom lessons and materials related to the U.S. Constitution. This series includes resources to support instruction in AP U.S. Government and Politics, AP Comparative Government and Politics, AP U.S. History, and AP English Language and Composition. These lessons and resources are available to AP teachers via the course homepages at AP Central and to all teachers through the National Constitution Center's [website](#).

Overview

Based on the Understanding by Design® (Wiggins and McTighe) model, this course framework provides a clear and detailed description of the course requirements necessary for student success. The framework specifies what students must know, be able to do, and understand, with a focus on five big ideas that encompass core principles, theories, and processes of the discipline. The framework also encourages instruction that prepares students for advanced political science coursework and active, informed participation in our constitutional democracy.

Although the course framework is designed to provide a clear and detailed description of the curriculum and course content required for students to qualify for college placement and/or credit in U.S. government and politics, it is not a complete curriculum. Teachers will need to choose the specific historical and contemporary contexts for their students to explore as they develop the concepts and skills described in the framework, while creating their own curriculum by selecting, for each concept in the framework, content that meets state or local requirements.

The course framework is composed of three sections:

I. AP U.S. Government and Politics Disciplinary Practices and Reasoning Processes

The disciplinary practices and reasoning processes are central to the study and practice of government and politics. You should help students develop and apply the described practices on a regular basis over the span of the course.

II. Big Ideas in AP U.S. Government and Politics

The big ideas are themes that are aligned with multiple enduring understandings or practices in the course.

III. Content Outline

The content outline, organized into five course units, details key content and conceptual understandings that colleges and universities typically expect students to master in order to qualify for college credit and/or placement.

I. AP U.S. Government and Politics Disciplinary Practices and Reasoning Processes

This section presents the disciplinary practices and reasoning processes that students should develop during the AP U.S. Government and Politics course. The tables that follow describe what students should be able to do with each disciplinary practice or reasoning process.

Every AP Exam question will assess one or more of these practices and reasoning processes.

The table of disciplinary practices describes the tasks students will apply to the course content. The course framework does not tie specific practices to specific content learning objectives. Instead, you should help students develop these practices throughout the course, using your professional judgment to sequence and scaffold them appropriately for your students.

The table of reasoning processes describes the cognitive operations students will draw upon and apply when doing the disciplinary practices. The column headings in the reasoning processes table relate back to the verbs in the disciplinary practices table.

AP U.S. Government and Politics Disciplinary Practices

Practice 1	Practice 2	Practice 3	Practice 4	Practice 5
Apply political concepts and processes to scenarios in context	Apply Supreme Court decisions	Analyze and interpret quantitative data represented in tables, charts, graphs, maps, and infographics	Read, analyze, and interpret foundational documents and other text-based and visual sources	Develop an argument in essay format
<i>Concept Application</i>	<i>SCOTUS Application</i>	<i>Data Analysis</i>	<i>Source Analysis</i>	<i>Argumentation</i>
<p>1.a. Describe political principles, institutions, processes, policies, and behaviors</p> <p>1.b. Explain political principles, institutions, processes, policies, and behaviors</p> <p>1.c. Compare political principles, institutions, processes, policies, and behaviors</p> <p>1.d. Describe political principles, institutions, processes, policies, and behaviors illustrated in different scenarios in context</p> <p>1.e. Explain how political principles, institutions, processes, policies, and behaviors apply to different scenarios in context</p>	<p>2.a. Describe the facts, reasoning, decision, and opinion(s) of required Supreme Court cases</p> <p>2.b. Explain how a required Supreme Court case relates to a foundational document or to other primary or secondary sources</p> <p>2.c. Compare the reasoning, decisions, and opinion(s) of a required Supreme Court case to a non-required Supreme Court case</p> <p>2.d. Explain how required Supreme Court cases apply to scenarios in context</p>	<p>3.a. Describe the data presented</p> <p>3.b. Describe patterns and trends in data</p> <p>3.c. Explain patterns and trends in data to draw conclusions</p> <p>3.d. Explain what the data imply or illustrate about political principles, institutions, processes, policies, and behaviors</p> <p>3.e. Explain possible limitations of the data provided</p> <p>3.f. Explain possible limitations of the visual representation of the data provided</p>	<p>4.a. Describe the author's claim(s), perspective, evidence, and reasoning</p> <p>4.b. Explain how the author's argument or perspective relates to political principles, institutions, processes, policies, and behaviors</p> <p>4.c. Explain how the implications of the author's argument or perspective may affect political principles, institutions, processes, policies, and behaviors</p> <p>4.d. Explain how the visual elements of a cartoon, map, or infographic illustrate or relate to political principles, institutions, processes, policies, and behaviors</p>	<p>5.a. Articulate a defensible claim/thesis</p> <p>5.b. Support the argument using relevant evidence</p> <p>5.c. Use reasoning to organize and analyze evidence, explaining its significance to justify the claim or thesis</p> <p>5.d. Use refutation, concession, or rebuttal in responding to opposing or alternate perspectives</p>

AP U.S. Government and Politics Reasoning Processes

Reasoning Process 1: Definition/Classification

When demonstrating their knowledge of course concepts, students should:

- Describe characteristics, attributes, traits, and elements in defining terms and concepts
- Classify concepts
- Describe structures and functions
- Describe patterns and/or trends
- Describe the perspective of a source or author
- Describe assumptions and/or reasoning of a source or author

Reasoning Process 2: Process

When explaining political processes, students should:

- Identify steps and/or stages in a process
- Explain how the steps or stages in a process relate to each other
- Explain challenges with processes and/or interactions
- Explain the relevance or significance of processes and/or interactions

Reasoning Process 3: Causation

When explaining causes and effects of political principles, institutions, processes, policies, and behaviors, students should:

- Identify causes and/or effects
- Explain the reasons for causes and/or effects
- Explain change over time
- Explain the significance of causes and/or effects
- Explain the implications of change over time

Reasoning Process 4: Comparison

When explaining similarities and differences among political principles, institutions, processes, policies, and behaviors, students should:

- Identify relevant categories of comparison
- Identify similarities and/or differences
- Explain the reasons for similarities and/or differences
- Explain the relevance, implications, and/or significance of similarities and differences

II. Big Ideas in AP U.S. Government and Politics

The big ideas described below are intended to illustrate distinctive features and processes in U.S. government and politics as well as how political scientists study political behavior.

Constitutionalism (CON)

The U.S. Constitution establishes a system of checks and balances among branches of government and allocates power between federal and state governments. This system is based on the rule of law and the balance majority rule and minority rights.

Liberty and Order (LOR)

Governmental laws and policies balancing order and liberty are based on the U.S. Constitution and have been interpreted differently over time.

Civic Participation in a Representative Democracy (PRD)

Popular sovereignty, individualism, and republicanism are important considerations of U.S. laws and policy making and assume citizens will engage and participate.

Competing Policy-Making Interests (PMI)

Multiple actors and institutions interact to produce and implement possible policies.

Methods of Political Analysis (MPA)

Using various types of analyses, political scientists measure how U.S. political behavior, attitudes, ideologies, and institutions are shaped by a number of factors over time.

Linking Big Ideas and Enduring Understandings

Big Ideas	Enduring Understandings				
	Unit 1:	Unit 2:	Unit 3:	Unit 4:	Unit 5:
	Foundations of American Democracy	Interactions Among Branches of Government	Civil Liberties and Civil Rights	American Political Ideologies and Beliefs	Political Participation
Constitutionalism	<p>CON-1: The Constitution emerged from the debate about the weaknesses in the Articles of Confederation as a blueprint for limited government.</p> <p>CON-2: Federalism reflects the dynamic distribution of power between national and state governments.</p>	<p>CON-3: The republican ideal in the U.S. is manifested in the structure and operation of the legislative branch.</p> <p>CON-4: The presidency has been enhanced beyond its expressed constitutional powers.</p> <p>CON-5: The design of the judicial branch protects the Supreme Court's independence as a branch of government, and the emergence and use of judicial review remains a powerful judicial practice.</p>	<p>CON-6: The Supreme Court's interpretation of the U.S. Constitution is influenced by the composition of the Court and citizen-state interactions. At times, it has restricted minority rights and, at others, protected them.</p>		
Liberty and Order	<p>LOR-1: A balance between governmental power and individual rights has been a hallmark of American political development.</p>		<p>LOR-2: Provisions of the U.S. Constitution's Bill of Rights are continually being interpreted to balance the power of government and the civil liberties of individuals.</p> <p>LOR-3: Protections of the Bill of Rights have been selectively incorporated by way of the Fourteenth Amendment's due process clause to prevent state infringement of basic liberties.</p>		

Big Ideas	Enduring Understandings				
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Civic Participation in a Representative Democracy			PRD-1: The Fourteenth Amendment's equal protection clause as well as other constitutional provisions have often been used to support the advancement of equality.		PRD-2: The impact of federal policies on campaigning and electoral rules continues to be contested by both sides of the political spectrum. PRD-3: The various forms of media provide citizens with political information and influence the ways in which they participate politically.
Competing Policy-Making Interests	PMI-1: The Constitution created a competitive policy-making process to ensure the people's will is represented and that freedom is preserved.	PMI-2: The federal bureaucracy is a powerful institution implementing federal policies with sometimes questionable accountability.	PMI-3: Public policy promoting civil rights is influenced by citizen–state interactions and constitutional interpretation over time.	PMI-4: Widely held political ideologies shape policy debates and choices in American policies.	PMI-5: Political parties, interest groups, and social movements provide opportunities for participation and influence how people relate to government and policy-makers.
Methods of Political Analysis [NOTE: Methods of political analysis applies across the course to all enduring understandings by virtue of its relationship to the disciplinary practices.]				MPA-1: Citizen beliefs about government are shaped by the intersection of demographics, political culture, and dynamic social change. MPA-2: Public opinion is measured through scientific polling, and the results of public opinion polls influence public policies and institutions.	MPA-3: Factors associated with political ideology, efficacy, structural barriers, and demographics influence the nature and degree of political participation.

III. Content Outline

Overview

AP U.S. Government and Politics has been designed as a nonpartisan course and has been endorsed by the National Constitution Center as well as a range of conservative and liberal scholars for its political balance. The required readings are the Declaration of Independence, the U.S. Constitution, the Articles of Confederation, representative Federalist Papers, Brutus No. 1, and Martin Luther King Jr.’s “Letter from a Birmingham Jail.” In addition, there are 15 required Supreme Court cases. Additional readings and assignments that teachers select to supplement the course must, as a whole, maintain a political balance. It is expected and required that all AP-authorized courses maintain political balance through a nonpartisan curriculum.

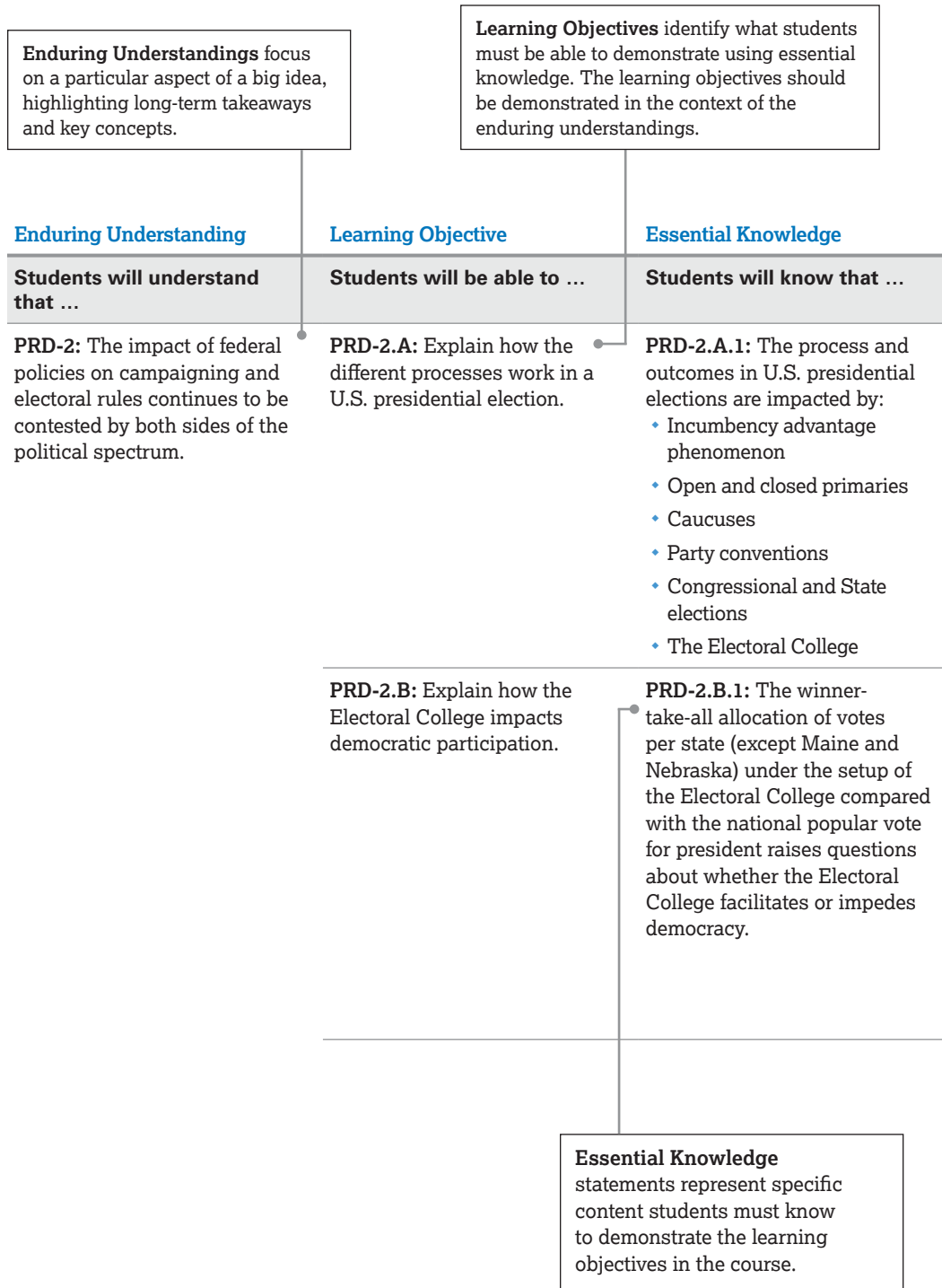
The course is designed to be a half-year course, although some high schools teach it as a full-year course. The content outline is divided into five separate units that comprise major course topics. Each unit begins with a short narrative providing background and context, followed by two or more essential questions that will help you connect the unit’s content to the big ideas in the course. Within each unit, a number of enduring understandings focus on specific aspects of the unit and delineate the level of conceptual understanding required of successful AP students.

The course content for each unit is presented in a tabular format. The components are as follows:

- **Enduring understandings (EUs):** The first column of the table lists the enduring understandings. These understandings specify what students will come to understand about the key concepts in each unit. EUs are labeled according to the big idea to which they relate, not the unit in which they appear (e.g., the first EU in unit 3 is designated **LOR-2** because it is the second enduring understanding relating to the big idea Liberty and Order).
- **Learning objectives (LOs):** Aligned to the left of essential knowledge statements are the corresponding learning objectives. These learning objectives convey what a student needs to be able to do with content knowledge in order to develop the enduring understandings, and serve as **targets of assessment for each course**. Learning objectives are labeled to correspond with the enduring understanding to which they relate (e.g., in unit 3 the LO designated **LOR-2.A** is the first LO aligned to the EU **LOR-2**).
- **Essential knowledge statements (EKs):** These statements describe the facts and basic concepts that a student should know and be able to recall in order to demonstrate mastery of each learning objective. Essential knowledge statements are labeled to correspond with the enduring understanding and learning objective to which they relate (e.g., in unit 3 the EK designated **LOR-2.A.2** is the second EK aligned to the LO **LOR-2.A**).
- **Foundational documents and Supreme Court cases:** These sources are necessary for students to understand the philosophical underpinnings, significant legal precedents, and political values of the U.S. political system and may serve as the focus of AP Exam questions. For greater visibility the required foundational documents and Supreme Court cases are indicated in bold. They are also listed in Appendixes A and B, respectively.

NOTE: *The required Supreme Court case in LOR 3.B.2.e (Roe v. Wade) is widely considered required content in college courses, and while students are expected to understand that this case represents an instance in which the Supreme Court applied the due process clause, students are not expected or required to either agree or disagree with the Court’s decision. Teachers should encourage students to be familiar with the legal arguments on both sides of leading constitutional cases and thoughtfully analyze the majority and dissenting opinions in cases relating to states’ rights, the due process clause, and the Bill of Rights.*

Sample Content Outline



UNIT 1:

Foundations of American Democracy

The U.S. Constitution arose out of important historical and philosophical ideas and preferences regarding popular sovereignty and limited government. Compromises were made during the Constitutional Convention and ratification debates, and these compromises have frequently been the source of conflict in U.S. politics over the proper balance between individual freedom, social order, and equality of opportunity.

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>LOR-1: A balance between governmental power and individual rights has been a hallmark of American political development.</p> <p>BIG IDEA: Liberty and Order</p>	<p>LOR-1.A: Explain how democratic ideals are reflected in the Declaration of Independence and the U.S. Constitution.</p> <p>LOR-1.B: Explain how models of representative democracy are visible in major institutions, policies, events, or debates in the U.S.</p>	<p>LOR-1.A.1: The U.S. government is based on ideas of limited government, including natural rights, popular sovereignty, republicanism, and social contract.</p> <p>LOR-1.A.2: The Declaration of Independence, drafted by Jefferson with help from Adams and Franklin, provides a foundation for popular sovereignty, while the U.S. Constitution drafted at the Philadelphia convention led by George Washington, with important contributions from Madison, Hamilton, and members of the “grand committee,” provides the blueprint for a unique form of political democracy in the U.S.</p> <p>LOR-1.B.1: Representative democracies can take several forms along this scale:</p> <ul style="list-style-type: none"> ♦ <i>Participatory democracy</i>, which emphasizes broad participation in politics and civil society ♦ <i>Pluralist democracy</i>, which recognizes group-based activism by nongovernmental interests striving for impact on political decision making ♦ <i>Elite democracy</i>, which emphasizes limited participation in politics and civil society <p>LOR-1.B.2: Different aspects of the U.S. Constitution, as well as the debate between the Federalist No. 10 and Brutus No. 1, reflect the tension between the broad participatory model and the more filtered participation of the pluralist and elite models.</p> <p>LOR-1.B.3: The three models of representative democracy continue to be reflected in contemporary institutions and political behavior.</p>
<p>CON-1: The Constitution emerged from the debate about the weaknesses in the Articles of Confederation as a blueprint for limited government.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-1.A: Explain how Federalist and Anti-Federalist views on central government and democracy are reflected in U.S. foundational documents.</p> <p>CON-1.B: Explain the relationship between key provisions of the Articles of Confederation and the debate over granting the federal government greater power formerly reserved to the states.</p>	<p>CON-1.A.1: Madison’s arguments in Federalist No. 10 focused on the superiority of a large republic in controlling the “mischiefs of faction,” delegating authority to elected representatives and dispersing power between the states and national government.</p> <p>CON-1.A.2: Anti-Federalist writings, including Brutus No. 1, adhered to popular democratic theory that emphasized the benefits of a small decentralized republic while warning of the dangers to personal liberty from a large, centralized government.</p> <p>CON-1.B.1: Specific incidents and legal challenges that highlighted key weaknesses of the Articles of Confederation are represented by the:</p> <ul style="list-style-type: none"> ♦ Lack of centralized military power to address Shays’ Rebellion ♦ Lack of tax-law enforcement power

Enduring Understanding	Learning Objective	Essential Knowledge
<p>Students will understand that ...</p> <p>CON-1: The Constitution emerged from the debate about the weaknesses in the Articles of Confederation as a blueprint for limited government.</p> <p>BIG IDEA: Constitutionalism (continued)</p>	<p>CON-1.C: Explain the ongoing impact of political negotiation and compromise at the Constitutional Convention on the development of the constitutional system.</p>	<p>Students will know that ...</p> <p>CON-1.C.1: Compromises deemed necessary for adoption and ratification of the Constitution are represented by the:</p> <ul style="list-style-type: none"> ♦ Great (Connecticut) Compromise ♦ Electoral College ♦ Three-Fifths Compromise ♦ Compromise on the importation of slaves <p>CON-1.C.2: Debates about self-government during the drafting of the Constitution necessitated the drafting of an amendment process in Article V that entailed either a two-thirds vote in both houses or a proposal from two-thirds of the state legislatures, with final ratification determined by three-fourths of the states.</p> <p>CON-1.C.3: The compromises necessary to secure ratification of the Constitution left some matters unresolved that continue to generate discussion and debate today.</p> <p>CON-1.C.4: The debate over the role of the central government, the powers of state governments, and the rights of individuals remains at the heart of present-day constitutional issues about democracy and governmental power, as represented by:</p> <ul style="list-style-type: none"> ♦ Debates about government surveillance resulting from the federal government’s response to the 9/11 attacks ♦ The debate about the role of the federal government in public school education
<p>PMI-1: The Constitution created a competitive policy-making process to ensure the people’s will is represented and that freedom is preserved.</p> <p>BIG IDEA: Competing Policy-Making Interests</p>	<p>PMI-1.A: Explain the constitutional principles of separation of powers and checks and balances.</p> <hr/> <p>PMI-1.B: Explain the implications of separation of powers and checks and balances for the U.S. political system.</p>	<p>PMI-1.A.1: The powers allocated to Congress, the president, and the courts demonstrate the separation of powers and checks and balances features of the U.S. Constitution.</p> <p>PMI-1.A.2: Federalist No. 51 explains how constitutional provisions of separation of powers and checks and balances control abuses by majorities.</p> <hr/> <p>PMI-1.B.1: Multiple access points for stakeholders and institutions to influence public policy flows from the separation of powers and checks and balances.</p> <p>PMI-1.B.2: Impeachment, removal, and other legal actions taken against public officials deemed to have abused their power reflect the purpose of checks and balances.</p>
<p>CON-2: Federalism reflects the dynamic distribution of power between national and state governments.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-2.A: Explain how societal needs affect the constitutional allocation of power between the national and state governments.</p>	<p>CON-2.A.1: The exclusive and concurrent powers of the national and state governments help explain the negotiations over the balance of power between the two levels.</p> <p>CON-2.A.2: The distribution of power between federal and state governments to meet the needs of society changes, as reflected by grants, incentives, and aid programs, including federal revenue sharing, mandates, categorical grants, and block grants.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>CON-2: Federalism reflects the dynamic distribution of power between national and state governments.</p> <p>BIG IDEA: Constitutionalism (continued)</p>	<p>CON-2.B: Explain how the appropriate balance of power between national and state governments has been interpreted differently over time.</p>	<p>CON-2.B.1: The interpretation of the Tenth and Fourteenth Amendments, the commerce clause, the necessary and proper clause, and other enumerated and implied powers is at the heart of the debate over the balance of power between the national and state governments.</p> <p>CON-2.B.2: The balance of power between the national and state governments has changed over time based on U.S. Supreme Court interpretation of such cases as:</p> <ul style="list-style-type: none"> ♦ <i>McCulloch v. Maryland</i> (1819), which declared that Congress has implied powers necessary to implement its enumerated powers and established supremacy of the U.S. Constitution and federal laws over state laws ♦ <i>United States v. Lopez</i> (1995), which ruled that Congress may not use the commerce clause to make possession of a gun in a school zone a federal crime, introducing a new phase of federalism that recognized the importance of state sovereignty and local control
	<p>CON-2.C: Explain how the distribution of powers among three federal branches and between national and state governments impacts policy making.</p>	<p>CON-2.C.1: Multiple access points for stakeholders and institutions to influence public policy flows from the allocation of powers between national and state governments.</p> <p>CON-2.C.2: National policymaking is constrained by the sharing of power between and among the three branches and state governments.</p>

UNIT 2:

Interactions Among Branches of Government

Because power is widely distributed and checks prevent one branch from usurping powers from the others, institutional actors are in the position where they must both compete and cooperate in order to govern.

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>CON-3: The republican ideal in the U.S. is manifested in the structure and operation of the legislative branch.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-3.A: Describe the different structures, powers, and functions of each house of Congress.</p>	<p>CON-3.A.1: The Senate is designed to represent states equally, while the House is designed to represent the population.</p> <p>CON-3.A.2: Different chamber sizes and constituencies influence formality of debate.</p> <p>CON-3.A.3: Coalitions in Congress are affected by term-length differences.</p> <p>CON-3.A.4: The enumerated and implied powers in the Constitution allow the creation of public policy by Congress, which includes:</p> <ul style="list-style-type: none"> ♦ Passing a federal budget, raising revenue, and coining money ♦ Declaring war and maintaining the armed forces ♦ Enacting legislation that addresses a wide range of economic, environmental, and social issues based on the Necessary and Proper Clause
	<p>CON-3.B: Explain how the structure, powers, and functions of both houses of Congress affect the policy-making process.</p>	<p>CON-3.B.1: By design, the different structures, powers, and functions of the U.S. Senate and House of Representatives affect the policy-making process.</p> <p>CON-3.B.2: Though both chambers rely on committees to conduct hearings and debate bills under consideration, different constitutional responsibilities of the House and Senate affect the policy-making process.</p> <p>CON-3.B.3: Chamber-specific procedures, rules, and roles that impact the policy-making process include:</p> <ul style="list-style-type: none"> ♦ Number of chamber and debate rules that set the bar high for building majority support ♦ Roles of Speaker of the House, President of the Senate, party leadership, and committee leadership in both chambers ♦ Filibuster and cloture ♦ Holds and unanimous consent in the Senate ♦ Role of Rules Committee, Committee of the Whole, and discharge petitions in the House ♦ Treaty ratification and confirmation role of the Senate <p>CON-3.B.4: Congress must generate a budget that addresses both discretionary and mandatory spending, and as entitlement costs grow, discretionary spending opportunities will decrease unless tax revenues increase or the budget deficit increases.</p> <p>CON-3.B.5: Pork barrel legislation and logrolling affect lawmaking in both chambers.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>CON-3: The republican ideal in the U.S. is manifested in the structure and operation of the legislative branch.</p> <p>BIG IDEA: Constitutionalism (continued)</p>	<p>CON-3.C: Explain how congressional behavior is influenced by election processes, partisanship, and divided government.</p>	<p>CON-3.C.1: Congressional behavior and governing effectiveness are influenced by:</p> <ul style="list-style-type: none"> ♦ Ideological divisions within Congress that can lead to gridlock or create the need for negotiation and compromise ♦ Gerrymandering, redistricting, and unequal representation of constituencies have been partially addressed by such Court decisions as <i>Baker v. Carr</i> (1961), which opened the door to equal protection challenges to redistricting and stated the “one person, one vote” doctrine, and the no-racial-gerrymandering decision in <i>Shaw v. Reno</i> (1993) ♦ Elections that have led to a divided government, including partisan votes against presidential initiatives and congressional refusal to confirm appointments of “lame-duck” presidents of the opposite party ♦ Different role conceptions of “trustee,” “delegate,” and “politico” as related to constituent accountability in each chamber
<p>CON-4: The presidency has been enhanced beyond its expressed constitutional powers.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-4.A: Explain how the president can implement a policy agenda.</p>	<p>CON-4.A.1: Presidents use powers and perform functions of the office to accomplish a policy agenda.</p> <p>CON-4.A.2: Formal and informal powers of the president include:</p> <ul style="list-style-type: none"> ♦ Vetoes and pocket vetoes – formal powers that enable the president to check Congress ♦ Foreign policy – both formal (Commander-in-Chief and treaties) and informal (executive agreements) powers that influence relations with foreign nations ♦ Bargaining and persuasion – informal power that enables the president to secure congressional action ♦ Executive orders – implied from the president’s vested executive power, or from power delegated by Congress, executive orders are used by the president to manage the federal government ♦ Signing statements – informal power that informs Congress and the public of the president’s interpretation of laws passed by Congress and signed by the president
	<p>CON-4.B: Explain how the president’s agenda can create tension and frequent confrontations with Congress.</p>	<p>CON-4.B.1: The potential for conflict with the Senate depends upon the type of executive branch appointments, including:</p> <ul style="list-style-type: none"> ♦ Cabinet members ♦ Ambassadors ♦ White House staff <p>CON-4.B.2: Senate confirmation is an important check on appointment powers, but the president’s longest lasting influence lies in life-tenured judicial appointments.</p> <p>CON-4.B.3: Policy initiatives and executive orders promoted by the president often lead to conflict with the congressional agenda.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>CON-4: The presidency has been enhanced beyond its expressed constitutional powers.</p> <p>BIG IDEA: Constitutionalism (continued)</p>	<p>CON-4.C: Explain how presidents have interpreted and justified their use of formal and informal powers.</p>	<p>CON-4.C.1: Justifications for a single executive are set forth in Federalist No. 70.</p> <p>CON-4.C.2: Term-of-office and constitutional-power restrictions, including the passage of the Twenty-second Amendment, demonstrate changing presidential roles.</p> <p>CON-4.C.3: Different perspectives on the presidential role, ranging from a limited to a more expansive interpretation and use of power, continue to be debated in the context of contemporary events.</p>
	<p>CON-4.D: Explain how communication technology has changed the president's relationship with the national constituency and the other branches.</p>	<p>CON-4.D.1: The communication impact of the presidency can be demonstrated through such factors as:</p> <ul style="list-style-type: none"> ♦ Modern technology, social media, and rapid response to political issues ♦ Nationally broadcast State of the Union messages and the president's bully pulpit used as tools for agenda setting
<p>CON-5: The design of the judicial branch protects the Supreme Court's independence as a branch of government, and the emergence and use of judicial review remains a powerful judicial practice.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-5.A: Explain the principle of judicial review and how it checks the power of other institutions and state governments.</p>	<p>CON-5.A.1: The foundation for powers of the judicial branch and how its independence checks the power of other institutions and state governments are set forth in:</p> <ul style="list-style-type: none"> ♦ Article III of the Constitution ♦ Federalist No. 78 ♦ Marbury v. Madison (1803)
	<p>CON-5.B: Explain how the exercise of judicial review in conjunction with life tenure can lead to debate about the legitimacy of the Supreme Court's power.</p>	<p>CON-5.B.1: Precedents and <i>stare decisis</i> play an important role in judicial decision making.</p> <p>CON-5.B.2: Ideological changes in the composition of the Supreme Court due to presidential appointments have led to the Court's establishing new or rejecting existing precedents.</p> <p>CON-5.B.3: Controversial or unpopular Supreme Court decisions can lead to challenges of the Court's legitimacy and power which Congress and the president can address only through future appointments, legislation changing the Court's jurisdiction, or refusing to implement decisions.</p> <p>CON-5.B.4: Political discussion about the Supreme Court's power is illustrated by the ongoing debate over judicial activism versus judicial restraint.</p>
	<p>CON-5.C: Explain how other branches in the government can limit the Supreme Court's power.</p>	<p>CON-5.C.1: Restrictions on the Supreme Court are represented by:</p> <ul style="list-style-type: none"> ♦ Congressional legislation to modify the impact of prior Supreme Court decisions ♦ Constitutional amendments ♦ Judicial appointments and confirmations ♦ The president and states evading or ignoring Supreme Court decisions ♦ Legislation impacting court jurisdiction

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>PMI-2: The federal bureaucracy is a powerful institution implementing federal policies with sometimes questionable accountability.</p> <p>BIG IDEA: Competing Policy-Making Interests</p>	<p>PMI-2.A: Explain how the bureaucracy carries out the responsibilities of the federal government.</p>	<p>PMI-2.A.1: Tasks performed by departments, agencies, commissions, and government corporations are represented by:</p> <ul style="list-style-type: none"> ♦ Writing and enforcing regulations ♦ Issuing fines ♦ Testifying before Congress ♦ Issue networks and “iron triangles” <p>PMI-2.A.2: Political patronage, civil service, and merit system reforms all impact the effectiveness of the bureaucracy by promoting professionalism, specialization, and neutrality.</p>
	<p>PMI-2.B: Explain how the federal bureaucracy uses delegated discretionary authority for rule making and implementation.</p>	<p>PMI-2.B.1: Discretionary and rule-making authority to implement policy are given to bureaucratic departments, agencies, and commissions, such as:</p> <ul style="list-style-type: none"> ♦ Department of Homeland Security ♦ Department of Transportation ♦ Department of Veterans Affairs ♦ Department of Education ♦ Environmental Protection Agency (EPA) ♦ Federal Elections Commission (FEC) ♦ Securities and Exchange Commission (SEC)
	<p>PMI-2.C: Explain how Congress uses its oversight power in its relationship with the executive branch.</p>	<p>PMI-2.C.1: Oversight and methods used by Congress to ensure that legislation is implemented as intended are represented by:</p> <ul style="list-style-type: none"> ♦ Committee hearings ♦ Power of the purse <p>PMI-2.C.2: As a means to curtail the use of presidential power, congressional oversight serves as a check of executive authorization and appropriation.</p>
	<p>PMI-2.D: Explain how the president ensures that executive branch agencies and departments carry out their responsibilities in concert with the goals of the administration.</p>	<p>PMI-2.D.1: Presidential ideology, authority, and influence affect how executive branch agencies carry out the goals of the administration.</p> <p>PMI-2.D.2: Compliance monitoring can pose a challenge to policy implementation.</p>
	<p>PMI-2.E: Explain the extent to which governmental branches can hold the bureaucracy accountable given the competing interests of Congress, the president, and the federal courts.</p>	<p>PMI-2.E.1: Formal and informal powers of Congress, the president, and the courts over the bureaucracy are used to maintain its accountability.</p>

UNIT 3:

Civil Liberties and Civil Rights

Through the U.S. Constitution, but primarily through the Bill of Rights and the Fourteenth Amendment, citizens and groups have attempted to restrict national and state governments from unduly infringing upon individual rights essential to ordered liberty and from denying equal protection under the law. Likewise, it has sometimes been argued that these legal protections have been used to block reforms and restrict freedoms of others in the name of social order.

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>LOR-2: Provisions of the U.S. Constitution's Bill of Rights are continually being interpreted to balance the power of government and the civil liberties of individuals.</p> <p>BIG IDEA: Liberty and Order</p>	<p>LOR-2.A: Explain how the U.S. Constitution protects individual liberties and rights.</p> <p>LOR-2.B: Describe the rights protected in the Bill of Rights.</p> <p>LOR-2.C: Explain the extent to which the Supreme Court's interpretation of the First and Second Amendments reflects a commitment to individual liberty.</p>	<p>LOR-2.A.1: The U.S. Constitution includes a Bill of Rights specifically designed to protect individual liberties and rights.</p> <p>LOR-2.A.2: Civil liberties are constitutionally established guarantees and freedoms that protect citizens, opinions, and property against arbitrary government interference.</p> <p>LOR-2.A.3: The application of the Bill of Rights is continuously interpreted by the courts.</p> <p>LOR-2.B.1: The Bill of Rights consists of the first ten Amendments to the Constitution, which enumerate the liberties and rights of individuals.</p> <p>LOR-2.C.1: The interpretation and application of the First Amendment's establishment and free exercise clauses reflect an ongoing debate over balancing majoritarian religions practice and free exercise, as represented by such cases as:</p> <ul style="list-style-type: none"> ♦ <i>Engel v. Vitale</i> (1962), which declared school sponsorship of religious activities violates the establishment clause ♦ <i>Wisconsin v. Yoder</i> (1972), which held that compelling Amish students to attend school past the eighth grade violates the free exercise clause <p>LOR-2.C.2: The Supreme Court has held that symbolic speech is protected by the First Amendment, demonstrated by <i>Tinker v. Des Moines Independent Community School District</i> (1969), in which the court ruled that public school students could wear black armbands in school to protest the Vietnam War.</p> <p>LOR-2.C.3: Efforts to balance social order and individual freedom are reflected in interpretations of the First Amendment that limit speech, including:</p> <ul style="list-style-type: none"> ♦ Time, place, and manner regulations ♦ Defamatory, offensive, and obscene statements and gestures ♦ That which creates a "clear and present danger" based on the ruling in <i>Schenck v. United States</i> (1919) <p>LOR-2.C.4: In <i>New York Times Co. v. United States</i> (1971), the Supreme Court bolstered the freedom of the press, establishing a "heavy presumption against prior restraint" even in cases involving national security.</p> <p>LOR-2.C.5: The Supreme Court's decisions on the Second Amendment rest upon its constitutional interpretation of individual liberty.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
<p>Students will understand that ...</p>	<p>Students will be able to ...</p>	<p>Students will know that ...</p>
<p>LOR-2: Provisions of the U.S. Constitution's Bill of Rights are continually being interpreted to balance the power of government and the civil liberties of individuals.</p> <p>BIG IDEA: Liberty and Order (continued)</p>	<p>LOR-2.D: Explain how the Supreme Court has attempted to balance claims of individual freedom with laws and enforcement procedures that promote public order and safety.</p>	<p>LOR-2.D.1: Court decisions defining cruel and unusual punishment involve interpretation of the Eighth Amendment and its application to state death penalty statutes over time.</p> <p>LOR-2.D.2: The debate about the Second and Fourth Amendments involves concerns about public safety and whether or not the government regulation of firearms or collection of digital metadata promotes or interferes with public safety and individual rights.</p>
<p>LOR-3: Protections of the Bill of Rights have been selectively incorporated by way of the Fourteenth Amendment's due process clause to prevent state infringement of basic liberties.</p> <p>BIG IDEA: Liberty and Order</p>	<p>LOR-3.A: Explain the implications of the doctrine of selective incorporation.</p> <p>LOR-3.B: Explain the extent to which states are limited by the due process clause from infringing upon individual rights.</p>	<p>LOR-3.A.1: The doctrine of selective incorporation has imposed on state regulation of civil rights and liberties as represented by:</p> <ul style="list-style-type: none"> ♦ <i>McDonald v. Chicago</i> (2010), which ruled the Second Amendment's right to keep and bear arms for self-defense in one's home is applicable to the states through the Fourteenth Amendment <p>LOR-3.B.1: The Supreme Court has on occasion ruled in favor of states' power to restrict individual liberty; for example, when speech can be shown to increase the danger to public safety.</p> <p>LOR-3.B.2: The Miranda rule involves the interpretation and application of accused persons' due process rights as protected by the Fifth and Sixth Amendments, yet the Supreme Court has sanctioned a public safety exception that allows unwarned interrogation to stand as direct evidence in court.</p> <p>LOR-3.B.3: Pretrial rights of the accused and the prohibition of unreasonable searches and seizures are intended to ensure that citizen liberties are not eclipsed by the need for social order and security, including:</p> <ul style="list-style-type: none"> ♦ The right to legal counsel, a speedy and public trial, and an impartial jury ♦ Protection against warrantless searches of cell phone data under the Fourth Amendment ♦ Limitations placed on bulk collection of telecommunication metadata (Patriot and USA Freedom Acts) <p>LOR-3.B.4: The due process clause has been applied to guarantee the right to an attorney and protection from unreasonable searches and seizures, as represented by:</p> <ul style="list-style-type: none"> ♦ <i>Gideon v. Wainwright</i> (1963), which guaranteed the right to an attorney for the poor or indigent ♦ The exclusionary rule, which stipulates that evidence illegally seized by law enforcement officers in violation of the suspect's Fourth Amendment right to be free from unreasonable searches and seizures cannot be used against that suspect in criminal prosecution

Enduring Understanding	Learning Objective	Essential Knowledge
<p>Students will understand that ...</p> <p>LOR-3: Protections of the Bill of Rights have been selectively incorporated by way of the Fourteenth Amendment’s due process clause to prevent state infringement of basic liberties.</p> <p>BIG IDEA: Liberty and Order (continued)</p>	<p>Students will be able to ...</p> <p>LOR-3.B: Explain the extent to which states are limited by the due process clause from infringing upon individual rights. (continued)</p>	<p>Students will know that ...</p> <p>LOR-3.B.5: While a right to privacy is not explicitly named in the Constitution, the Supreme Court has interpreted the due process clause to protect the right of privacy from state infringement. This interpretation of the due process clause has been the subject of controversy, such as has resulted from:</p> <ul style="list-style-type: none"> ♦ Roe v. Wade (1973), which extended the right of privacy to a woman’s decision to have an abortion while recognizing compelling state interests in potential life and maternal health <p>[NOTE: The case of <i>Roe v. Wade</i> is widely considered required content in college courses, and while students are expected to understand that this case represents an instance in which the Supreme Court applied the due process clause, students are not expected or required to either agree or disagree with the Court’s decision. Teachers should encourage students to be familiar with the legal arguments on both sides of leading constitutional cases and thoughtfully analyze the majority and dissenting opinions in cases relating to states’ rights, the due process clause, and the Bill of Rights.]</p>
<p>PRD-1: The Fourteenth Amendment’s equal protection clause as well as other constitutional provisions have often been used to support the advancement of equality.</p> <p>BIG IDEA: Civic Participation in a Representative Democracy</p>	<p>PRD-1.A: Explain how constitutional provisions have supported and motivated social movements.</p>	<p>PRD-1.A.1: Civil rights protect individuals from discrimination based on characteristics such as race, national origin, religion, and sex; these rights are guaranteed to all citizens under the due process and equal protection clauses of the U.S. Constitution, as well as acts of Congress.</p> <p>PRD-1.A.2: The leadership and events associated with civil, women’s, and LGBTQ rights are evidence of how the equal protection clause can support and motivate social movements, as represented by:</p> <ul style="list-style-type: none"> ♦ Dr. Martin Luther King’s “Letter from a Birmingham Jail” and the civil rights movement of the 1960s ♦ The National Organization for Women and the women’s rights movement ♦ The pro-life (anti-abortion) movement
<p>PMI-3: Public policy promoting civil rights is influenced by citizen–state interactions and constitutional interpretation over time.</p> <p>BIG IDEA: Competing Policy-Making Interests</p>	<p>PMI-3.A: Explain how the government has responded to social movements.</p>	<p>PMI-3.A.1: The government can respond to social movements through court rulings and/or policies, as in:</p> <ul style="list-style-type: none"> ♦ Brown v. Board of Education (1954), which declared that race-based school segregation violates the Fourteenth Amendment’s equal protection clause ♦ The Civil Rights Act of 1964 ♦ Title IX of the Education Amendments Act of 1972 ♦ The Voting Rights Act of 1965
<p>CON-6: The Supreme Court’s interpretation of the U.S. Constitution is influenced by the composition of the Court and citizen–state interactions. At times, it has restricted minority rights and, at others, protected them.</p> <p>BIG IDEA: Constitutionalism</p>	<p>CON-6.A: Explain how the Supreme Court has at times allowed the restriction of the civil rights of minority groups and at other times has protected those rights.</p>	<p>CON-6.A.1: Decisions demonstrating that minority rights have been restricted at times and protected at other times include:</p> <ul style="list-style-type: none"> ♦ State laws and Supreme Court holdings restricting African American access to the same restaurants, hotels, schools, etc., as the majority white population based on the “separate but equal” doctrine ♦ Brown v. Board of Education (1954), which declared that race-based school segregation violates the Fourteenth Amendment’s equal protection clause ♦ The Supreme Court upholding the rights of the majority in cases that limit and prohibit majority-minority districting <p>CON-6.A.2: The debate on affirmative action includes justices who insist that the Constitution is colorblind and those who maintain that it forbids only racial classifications designed to harm minorities, not help them.</p>

UNIT 4:

American Political Ideologies and Beliefs

American political beliefs are shaped by founding ideals, core values, linkage institutions (e.g., elections, political parties, interest groups, and the media in all its forms), and the changing demographics of citizens. These beliefs about government, politics, and the individual's role in the political system influence the creation of public policies.

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>MPA-1: Citizen beliefs about government are shaped by the intersection of demographics, political culture, and dynamic social change.</p> <p>BIG IDEA: Methods of Political Analysis</p>	<p>MPA-1.A: Explain the relationship between core beliefs of U.S. citizens and attitudes about the role of government.</p> <p>MPA-1.B: Explain how cultural factors influence political attitudes and socialization.</p>	<p>MPA-1.A.1: Different interpretations of core values, including individualism, equality of opportunity, free enterprise, rule of law, and limited government, affect the relationship between citizens and the federal government and the relationships citizens have with one another.</p> <p>MPA-1.B.1: Family, schools, peers, media, and social environments (including civic and religious organizations) contribute to the development of an individual's political attitudes and values through the process of political socialization.</p> <p>MPA-1.B.2: As a result of globalization, U.S. political culture has both influenced and been influenced by the values of other countries.</p> <p>MPA-1.B.3: Generational and lifecycle effects also contribute to the political socialization that influences an individual's political attitudes.</p> <p>MPA-1.B.4: The relative importance of major political events to the development of individual political attitudes is an example of political socialization.</p>
<p>MPA-2: Public opinion is measured through scientific polling, and the results of public opinion polls influence public policies and institutions.</p> <p>BIG IDEA: Methods of Political Analysis</p>	<p>MPA-2.A: Describe the elements of a scientific poll.</p> <p>MPA-2.B: Explain the quality and credibility of claims based on public opinion data.</p>	<p>MPA-2.A.1: Public opinion data that can impact elections and policy debates is affected by such scientific polling types and methods as:</p> <ul style="list-style-type: none"> ♦ Type of poll (opinion polls, benchmark or tracking polls, entrance and exit polls) ♦ Sampling techniques, identification of respondents, mass survey or focus group, sampling error ♦ Type and format of questions <p>MPA-2.B.1: The relationship between scientific polling and elections and policy debates is affected by the:</p> <ul style="list-style-type: none"> ♦ Importance of public opinion as a source of political influence in a given election or policy debate ♦ Reliability and veracity of public opinion data
<p>PMI-4: Widely held political ideologies shape policy debates and choices in American policies.</p> <p>BIG IDEA: Competing Policy-Making Interests</p>	<p>PMI-4.A: Explain how the ideologies of the two major parties shape policy debates.</p> <p>PMI-4.B: Explain how U.S. political culture (e.g., values, attitudes, and beliefs) influences the formation, goals, and implementation of public policy over time.</p> <p>PMI-4.C: Describe different political ideologies regarding the role of government in regulating the marketplace.</p>	<p>PMI-4.A.1: The Democratic Party (D or DEM) platforms generally align more closely to liberal ideological positions, and the Republican Party (R or GOP) platforms generally align more closely to conservative ideological positions.</p> <p>PMI-4.B.1: Because the U.S. is a democracy with a diverse society, public policies generated at any given time reflect the attitudes and beliefs of citizens who choose to participate in politics at that time.</p> <p>PMI-4.B.2: The balancing dynamic of individual liberty and government efforts to promote stability and order has been reflected in policy debates and their outcomes over time.</p> <p>PMI-4.C.1: Liberal ideologies favor more governmental regulation of the marketplace, conservative ideologies favor fewer regulations, and libertarian ideologies favor little or no regulation of the marketplace beyond the protection of property rights and voluntary trade.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>PMI-4: Widely held political ideologies shape policy debates and choices in American policies.</p>	<p>PMI-4.D: Explain how political ideologies vary on the government’s role in regulating the marketplace.</p>	<p>PMI-4.D.1: Ideological differences on marketplace regulation are based on different theoretical support, including Keynesian and supply-side positions on monetary and fiscal policies promoted by the president, Congress, and the Federal Reserve.</p>
<p>BIG IDEA: Competing Policy-Making Interests <i>(continued)</i></p>	<p>PMI-4.E: Explain how political ideologies vary on the role of the government in addressing social issues.</p>	<p>PMI-4.E.1: Liberal ideologies tend to think that personal privacy—areas of behavior where government should not intrude—extends further than conservative ideologies do (except in arenas involving religious and educational freedom); conservative ideologies favor less government involvement to ensure social and economic equality; and libertarian ideologies disfavor any governmental intervention beyond the protection of private property and individual liberty.</p>
	<p>PMI-4.F: Explain how different ideologies impact policy on social issues.</p>	<p>PMI-4.F.1: Policy trends concerning the level of government involvement in social issues reflect the success of conservative or liberal perspectives in political parties.</p>

UNIT 5:

Political Participation

Governing is achieved directly through citizen participation and indirectly through institutions (e.g., political parties, interest groups, and mass media) that inform, organize, and mobilize support to influence government and politics, resulting in many venues for citizen influence on policy making.

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>MPA-3: Factors associated with political ideology, efficacy, structural barriers, and demographics influence the nature and degree of political participation.</p> <p>BIG IDEA: Methods of Political Analysis</p>	<p>MPA-3.A: Describe the voting rights protections in the Constitution and in legislation.</p> <p>MPA-3.B: Describe different models of voting behavior.</p> <p>MPA-3.C: Explain the roles that individual choice and state laws play in voter turnout in elections.</p>	<p>MPA-3.A.1: Legal protections found in federal legislation and the Fifteenth, Seventeenth, Nineteenth, Twenty-Fourth, and Twenty-Sixth Amendments relate to the expansion of opportunities for political participation.</p> <p>MPA-3.B.1: Examples of political models explaining voting behavior include:</p> <ul style="list-style-type: none"> ♦ Rational-choice voting—Voting based on what is perceived to be in the citizen’s individual interest ♦ Retrospective voting—Voting to decide whether the party or candidate in power should be re-elected based on the recent past ♦ Prospective voting—Voting based on predictions of how a party or candidate will perform in the future ♦ Party-line voting—Supporting a party by voting for candidates from one political party for all public offices across the ballot <p>MPA-3.C.1: In addition to the impact that demographics and political efficacy can have on voter choice and turnout, structural barriers and type of election also affect voter turnout in the U.S., as represented by:</p> <ul style="list-style-type: none"> ♦ State voter registration laws ♦ Procedures on how, when, and where to vote ♦ Mid-term (congressional) or general presidential elections <p>MPA-3.C.2: Demographic characteristics and political efficacy or engagement are used to predict the likelihood of whether an individual will vote.</p> <p>MPA-3.C.3: Factors influencing voter choice include:</p> <ul style="list-style-type: none"> ♦ Party identification and ideological orientation ♦ Candidate characteristics ♦ Contemporary political issues ♦ Religious beliefs or affiliation, gender, race and ethnicity, and other demographic characteristics
<p>PMI-5: Political parties, interest groups, and social movements provide opportunities for participation and influence how people relate to government and policy-makers.</p> <p>BIG IDEA: Competing Policy-Making Interests</p>	<p>PMI-5.A: Describe linkage institutions.</p> <p>PMI-5.B: Explain the function and impact of political parties on the electorate and government.</p>	<p>PMI-5.A.1: Linkage institutions are channels, such as the following, that allow individuals to communicate their preferences to policy-makers:</p> <ul style="list-style-type: none"> ♦ Parties ♦ Interest Groups ♦ Elections ♦ Media <p>PMI-5.B.1: The functions and impact of political parties on the electorate and government are represented by:</p> <ul style="list-style-type: none"> ♦ Mobilization and education of voters ♦ Party platforms ♦ Candidate recruitment ♦ Campaign management, including fundraising and media strategy ♦ The committee and party leadership systems in legislatures

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>PMI-5: Political parties, interest groups, and social movements provide opportunities for participation and influence how people relate to government and policy-makers.</p> <p>BIG IDEA: Competing Policy-Making Interests (continued)</p>	<p>PMI-5.C: Explain why and how political parties change and adapt.</p>	<p>PMI-5.C.1: Parties have adapted to candidate-centered campaigns, and their role in nominating candidates has been weakened.</p> <p>PMI-5.C.2: Parties modify their policies and messaging to appeal to various demographic coalitions.</p> <p>PMI-5.C.3: The structure of parties has been influenced by:</p> <ul style="list-style-type: none"> ♦ Critical elections and regional realignments ♦ Campaign finance law ♦ Changes in communication and data-management technology <p>PMI-5.C.4: Parties use communication technology and voter-data management to disseminate, control, and clarify political messages and enhance outreach and mobilization efforts.</p>
	<p>PMI-5.D: Explain how structural barriers impact third-party and independent-candidate success.</p>	<p>PMI-5.D.1: In comparison to proportional systems, winner-take-all voting districts serve as a structural barrier to third-party and independent candidate success.</p> <p>PMI-5.D.2: The incorporation of third-party agendas into platforms of major political parties serves as a barrier to third-party and independent candidate success.</p>
	<p>PMI-5.E: Explain the benefits and potential problems of interest-group influence on elections and policy making.</p>	<p>PMI-5.E.1: Interest groups may represent very specific or more general interests, and can educate voters and office holders, draft legislation, and mobilize membership to apply pressure on and work with legislators and government agencies.</p> <p>PMI-5.E.2: In addition to working within party coalitions, interest groups exert influence through long-standing relationships with bureaucratic agencies, congressional committees, and other interest groups; such relationships are described as “iron triangles” and issue networks and they help interest groups exert influence across political party coalitions.</p>
	<p>PMI-5.F: Explain how variation in types and resources of interest groups affects their ability to influence elections and policy making.</p>	<p>PMI-5.F.1: Interest group influence may be impacted by:</p> <ul style="list-style-type: none"> ♦ Inequality of political and economic resources ♦ Unequal access to decision makers ♦ “Free rider” problem
	<p>PMI-5.G: Explain how various political actors influence public policy outcomes.</p>	<p>PMI-5.G.1: Single-issue groups, ideological/social movements, and protest movements form with the goal of impacting society and policy making.</p> <p>PMI-5.G.2: Competing actors such as interest groups, professional organizations, social movements, the military, and bureaucratic agencies influence policy making, such as the federal budget process, at key stages and to varying degrees.</p> <p>PMI-5.G.3: Elections and political parties are related to major policy shifts or initiatives, occasionally leading to political realignments of voting constituencies.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>PRD-2: The impact of federal policies on campaigning and electoral rules continues to be contested by both sides of the political spectrum.</p> <p>BIG IDEA: Civic Participation in a Representative Democracy</p>	<p>PRD-2.A: Explain how the different processes work in a U.S. presidential election.</p>	<p>PRD-2.A.1: The process and outcomes in U.S. presidential elections are impacted by:</p> <ul style="list-style-type: none"> ♦ Incumbency advantage phenomenon ♦ Open and closed primaries ♦ Caucuses ♦ Party conventions ♦ Congressional and State elections ♦ The Electoral College
	<p>PRD-2.B: Explain how the Electoral College impacts democratic participation.</p>	<p>PRD-2.B.1: The winner-take-all allocation of votes per state (except Maine and Nebraska) under the setup of the Electoral College compared with the national popular vote for president raises questions about whether the Electoral College facilitates or impedes democracy.</p>
	<p>PRD-2.C: Explain how the different processes work in U.S. congressional elections.</p>	<p>PRD-2.C.1: The process and outcomes in U.S. Congressional elections are impacted by:</p> <ul style="list-style-type: none"> ♦ Incumbency advantage phenomenon ♦ Open and closed primaries ♦ Caucuses ♦ General (presidential and mid-term) elections
	<p>PRD-2.D: Explain how campaign organizations and strategies affect the election process.</p>	<p>PRD-2.D.1: The benefits and drawbacks of modern campaigns are represented by:</p> <ul style="list-style-type: none"> ♦ Dependence on professional consultants ♦ Rising campaign costs and intensive fundraising efforts ♦ Duration of election cycles ♦ Impact of and reliance on social media for campaign communication and fundraising
	<p>PRD-2.E: Explain how the organization, finance, and strategies of national political campaigns affect the election process.</p>	<p>PRD-2.E.1: Federal legislation and case law pertaining to campaign finance demonstrate the ongoing debate over the role of money in political and free speech, as set forth in:</p> <ul style="list-style-type: none"> ♦ Bipartisan Campaign Reform Act of 2002, which was an effort to ban soft money and reduce attack ads with “Stand by Your Ad” provision: “I’m [candidate’s name] and I approve this message” ♦ <i>Citizens United v. Federal Election Commission</i> (2010), which ruled that political spending by corporations, associations, and labor unions is a form of protected speech under the First Amendment <p>PRD-2.E.2: Debates have increased over free speech and competitive and fair elections related to money and campaign funding (including contributions from individuals, PACs, and political parties).</p> <p>PRD-2.E.3: Different types of political action committees (PACs) influence elections and policy making through fundraising and spending.</p>

Enduring Understanding	Learning Objective	Essential Knowledge
Students will understand that ...	Students will be able to ...	Students will know that ...
<p>PRD-3: The various forms of media provide citizens with political information and influence the ways in which they participate politically.</p> <p>BIG IDEA: Civic Participation in a Representative Democracy</p>	<p>PRD-3.A: Explain the media’s role as a linkage institution.</p> <p>PRD-3.B: Explain how increasingly diverse choices of media and communication outlets influence political institutions and behavior.</p>	<p>PRD-3.A.1: Traditional news media, new communication technologies, and advances in social media have profoundly influenced how citizens routinely acquire political information, including new events, investigative journalism, election coverage, and political commentary.</p> <p>PRD-3.A.2: The media’s use of polling results to convey popular levels of trust and confidence in government can impact elections by turning such events into “horse races” based more on popularity and factors other than qualifications and platforms of candidates.</p> <p>PRD-3.B.1: Political participation is influenced by a variety of media coverage, analysis, and commentary on political events.</p> <p>PRD-3.B.2: The rapidly increasing demand for media and political communications outlets from an ideologically diverse audience have led to debates over media bias and the impact of media ownership and partisan news sites.</p> <p>PRD-3.B.3: The nature of democratic debate and the level of political knowledge among citizens is impacted by:</p> <ul style="list-style-type: none"> ♦ Increased media choices ♦ Ideologically oriented programming ♦ Consumer-driven media outlets and emerging technologies that reinforce existing beliefs ♦ Uncertainty over the credibility of news sources and information

Appendix A: Required Foundational Documents

The following listing represents the required readings for the course as they relate to the enduring understandings. Teachers are encouraged to also use both classic and contemporary scholarly writings in political science to promote the comparison of political ideas and their application to recent events. Information about many constitutional issues can also be found on the National Constitution Center’s website: <http://constitutioncenter.org/interactive-constitution>. This same information is also available for download for e-readers, tablets, and other mobile devices through the National Constitution Center’s Interactive Constitution App available at <http://constitutioncenter.org/interactive-constitution/about#download-app>.

LOR-1: A balance between governmental power and individual rights has been a hallmark of American political development.

Federalist No. 10

The Same Subject Continued – The Utility of the Union as a Safeguard Against Domestic Faction and Insurrection

<http://teachingamericanhistory.org/library/document/federalist-no-10/>

Brutus No. 1

To the Citizens of the State of New-York

<http://teachingamericanhistory.org/library/document/brutus-i/>

The Declaration of Independence

http://www.archives.gov/exhibits/charters/declaration_transcript.html

CON-1: The Constitution emerged from the debate about the weaknesses in the Articles of Confederation as a blueprint for limited government.

The Articles of Confederation

<http://www.ushistory.org/documents/confederation.htm>

The Constitution of the United States (including the Bill of Rights and subsequent Amendments)

<http://constitutioncenter.org/interactive-constitution>

PMI-1: The Constitution created a competitive policy-making process to ensure the people's will is accurately represented and that freedom is preserved.

The Constitution of the United States (including the Bill of Rights and subsequent Amendments)

<http://constitutioncenter.org/interactive-constitution>

Federalist No. 51

The Structure of the Government Must Furnish the Proper Checks and Balances Between the Different Departments

<http://teachingamericanhistory.org/library/document/federalist-no-51/>

CON-2: Federalism reflects the dynamic distribution of power between national and state governments.

The Constitution of the United States (including the Bill of Rights and subsequent Amendments)

<http://constitutioncenter.org/interactive-constitution>

PRD-1: The Fourteenth Amendment's equal protection clause as well as other constitutional provisions have often been used to support the advancement of equality.

Letter from a Birmingham Jail (Martin Luther King, Jr.)

http://web.cn.edu/kwheeler/documents/Letter_Birmingham_Jail.pdf

CON-4: The presidency has been enhanced beyond its expressed constitutional powers.

Federalist No. 70

The Executive Department Further Considered

<http://teachingamericanhistory.org/library/document/federalist-no-70/>

CON-5: The design of the judicial branch protects the Supreme Court's independence as a branch of government, and the emergence and use of judicial review remains a powerful judicial practice.

Federalist No. 78

The Judiciary Department

<http://teachingamericanhistory.org/library/document/federalist-no-78/>

Appendix B: Required Supreme Court Cases

The following listing represents required Supreme Court cases and their holdings as related to the enduring understandings in the content outline.

CON-2: Federalism reflects the dynamic distribution of power between national and state governments.

McCulloch v. Maryland (1819)

Established supremacy of the U.S. Constitution and federal laws over state laws

United States v. Lopez (1995)

Congress may not use the commerce clause to make possession of a gun in a school zone a federal crime

LOR-2: Provisions of the U.S. Constitution’s Bill of Rights are continually being interpreted to balance the power of government and the civil liberties of individuals.

Engel v. Vitale (1962)

School sponsorship of religious activities violates the establishment clause

Wisconsin v. Yoder (1972)

Compelling Amish students to attend school past the eighth grade violates the free exercise clause

Tinker v. Des Moines Independent Community School District (1969)

Public school students have the right to wear black armbands in school to protest the Vietnam War

New York Times Co. v. United States (1971)

Bolstered the freedom of the press, establishing a “heavy presumption against prior restraint” even in cases involving national security

Schenck v. United States (1919)

Speech creating a “clear and present danger” is not protected by the First Amendment

LOR-3: Protections of the Bill of Rights have been selectively incorporated by way of the Fourteenth Amendment’s due process clause to prevent state infringement of basic liberties.

Gideon v. Wainwright (1963)

Guaranteed the right to an attorney for the poor or indigent

Roe v. Wade (1973)

Extended the right of privacy to a woman’s decision to have an abortion

McDonald v. Chicago (2010)

The Second Amendment right to keep and bear arms for self-defense is applicable to the states

PRD-1: The 14th Amendment’s equal protection clause as well as other constitutional provisions have often been used to support the advancement of equality.

Brown v. Board of Education (1954)

Race-based school segregation violates the equal protection clause

PRD-2: The impact of federal policies on campaigning and electoral rules continues to be contested by both sides of the political spectrum.

Citizens United v. Federal Election Commission (2010)

Political spending by corporations, associations, and labor unions is a form of protected speech under the First Amendment

CON-3: The republican ideal in the U.S. is manifested in the structure and operation of the legislative branch.

Baker v. Carr (1961)

Opened the door to equal protection challenges to redistricting and the development of the “one person, one vote” doctrine by ruling that challenges to redistricting did not raise “political questions” that would keep federal courts from reviewing such challenges

Shaw v. Reno (1993)

Legislative redistricting must be conscious of race and ensure compliance with the Voting Rights Act of 1965

CON-5: The design of the judicial branch protects the Supreme Court’s independence as a branch of government, and the emergence and use of judicial review remains a powerful judicial practice.

Marbury v. Madison (1803)

Established the principle of judicial review empowering the Supreme Court to nullify an act of the legislative or executive branch that violates the Constitution

AP U.S. Government and Politics Project

Making the Civic Connection

To be authorized as an AP U.S. Government and Politics course, teachers must submit a course syllabus for review that complies with the following:

Curricular Requirement 14: Students are provided with an opportunity to engage in a political science research or applied civics project tied to the AP U.S. Government and Politics course framework that culminates in a presentation of findings. (See AP U.S. Government & Politics Course Audit Curricular Requirements on AP Central.)

The project can involve student participation in nonpartisan service learning opportunities, government-based internship programs, or a choice from a teacher-approved list of research project ideas.

While the project is not part of the AP Exam grade, it does provide students the opportunity to engage in a sustained, real-world activity that will deepen their understanding of course content and help them develop the disciplinary practices that are assessed on the exam.

AP U.S. Government and Politics Exam

The AP U.S. Government and Politics Exam measures students' understanding of the course learning objectives, disciplinary practices, and reasoning processes. Both sections of the exam will assess' knowledge and ability to interpret the nine required foundational documents and 15 required Supreme Court cases. The following table provides a brief overview of the exam format and types of questions.

Exam Overview

Section I

Multiple Choice — 55 Questions | 80 Minutes | 50% of Exam Score

- ♦ **Quantitative Analysis:** Analysis and application of quantitative-based source material
- ♦ **Qualitative Analysis:** Analysis and application of text-based (primary and secondary) sources
- ♦ **Visual Analysis:** Analysis and application of qualitative visual information
- ♦ **Concept Application:** Explanation of the application of political concepts in context
- ♦ **Comparison:** Explanation of the similarities and differences of political concepts
- ♦ **Knowledge:** Identification and definition of political principles, processes, institutions, policies, and behaviors

Section II

Free Response — 4 Questions | 100 Minutes | 50% of Exam Score

- ♦ **Concept Application:** Respond to a political scenario, explaining how it relates to a political principle, institution, process, policy, or behavior
 - ♦ **Quantitative Analysis:** Analyze quantitative data, identify a trend or pattern, draw a conclusion for the visual representation, and explain how it relates to a political principle, institution, process, policy, or behavior
 - ♦ **SCOTUS Comparison:** Compare a non-required Supreme Court case with a required Supreme Court case, explaining how information from the required case is relevant to that in the non-required one
 - ♦ **Argument Essay:** Develop an argument in the form of an essay, using evidence from one or more required foundational documents
-

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Course and Exam Description

AP[®] Research

Part of the AP Capstone™ Program

Effective Fall 2017



IMPORTANT INFORMATION ABOUT AP RESEARCH:

In order to offer AP Research, schools must be authorized by the AP Program as a participating AP Capstone school and teachers must attend mandatory training. AP Research may only be offered as the second course in the AP Capstone sequence, following AP Seminar.

See collegeboard.org/apcapstone for details.

Effective Fall 2017

AP[®] Research

Course and Exam Description
Part of the AP Capstone[™] Program

Effective Fall 2017

About the College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT[®] and the Advanced Placement Program[®]. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools. For further information, visit www.collegeboard.org.

AP[®] Equity and Access Policy

The College Board strongly encourages educators to make equitable access a guiding principle for their AP[®] programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

Third Edition

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About AP[®]

The College Board's Advanced Placement Program[®] (AP[®]) enables students to pursue college-level studies while still in high school. Through more than 30 courses, each culminating in a rigorous exam, AP provides willing and academically prepared students with the opportunity to earn college credit, advanced placement, or both. Taking AP courses also demonstrates to college admission officers that students have sought out the most rigorous course work available to them.

Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. Talented and dedicated AP teachers help AP students in classrooms around the world develop and apply the content knowledge and skills they will need later in college.

Each AP course concludes with a college-level assessment developed and scored by college and university faculty as well as experienced AP teachers. AP Exams are an essential part of the AP experience, enabling students to demonstrate their mastery of college-level course work. Most four-year colleges and universities in the United States and universities in more than 60 countries recognize AP in the admissions process and grant students credit, placement, or both on the basis of successful AP Exam scores. Visit www.collegeboard.org/ap/creditpolicy to view AP credit and placement policies at more than 1,000 colleges and universities.

Performing well on an AP Exam means more than just the successful completion of a course; it is a gateway to success in college. Research consistently shows that students who receive a score of 3 or higher on AP Exams typically experience greater academic success in college and have higher graduation rates than their non-AP peers¹. Additional AP studies are available at www.collegeboard.org/research.

¹See the following research studies for more details:

Linda Hargrove, Donn Godin, and Barbara Dodd, *College Outcomes Comparisons by AP and Non-AP High School Experiences* (New York: The College Board, 2008).

Chrys Dougherty, Lynn Mellor, and Shuling Jian, *The Relationship Between Advanced Placement and College Graduation* (Austin, Texas: National Center for Educational Accountability, 2006).

Offering AP Courses and Enrolling Students

Each AP course and exam description details the essential information required to understand the objectives and expectations of an AP course. The AP Program unequivocally supports the principle that each school implements its own curriculum that will enable students to develop the content knowledge and skills described here.

Schools wishing to offer AP courses must participate in the AP Course Audit, a process through which AP teachers' syllabi are reviewed by college faculty. The AP Course Audit was created at the request of College Board members who sought a means for the College Board to provide teachers and administrators with clear guidelines on curricular and resource requirements for AP courses and to help colleges and universities validate courses marked "AP" on students' transcripts. This process ensures that AP teachers' syllabi meet or exceed the curricular and resource expectations that college and secondary school faculty have established for college-level courses. For more information on the AP Course Audit, visit www.collegeboard.org/apcourseaudit.

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

How AP Courses and Exams Are Developed

AP courses and exams are designed by committees of college faculty and expert AP teachers who ensure that each AP subject reflects and assesses college-level expectations. To find a list of each subject's current AP Development Committee members, please visit press.collegeboard.org/ap/committees. AP Development Committees define the scope and expectations of the course, articulating through a curriculum framework what students should know and be able to do upon completion of the AP course. Their work is informed by data collected from a range of colleges and universities to ensure that AP coursework reflects current scholarship and advances in the discipline.

The AP Development Committees are also responsible for drawing clear and well-articulated connections between the AP course and AP Exam — work that includes designing and approving exam specifications and exam questions. The AP Exam development process is a multiyear endeavor; all AP Exams undergo extensive review, revision, piloting, and analysis to ensure that questions are high quality and fair and that there is an appropriate spread of difficulty across the questions.

Throughout AP course and exam development, the College Board gathers feedback from various stakeholders in both secondary schools and higher education institutions. This feedback is carefully considered to ensure that AP courses and exams are able to provide students with a college-level learning experience and the opportunity to demonstrate their qualifications for advanced placement upon college entrance.

How AP Exams Are Scored

The exam scoring process, like the course and exam development process, relies on the expertise of both AP teachers and college faculty. While multiple-choice questions are scored by machine, the free-response questions are scored by thousands of college faculty and expert AP teachers at the annual AP Reading. AP Exam Readers are thoroughly trained, and their work is monitored throughout the Reading for fairness and consistency. In each subject, a highly respected college faculty member fills the role of Chief Reader, who, with the help of AP Readers in leadership positions, maintains the accuracy of the scoring standards. Scores on the free-response questions are weighted and combined with the results of the computer-scored multiple-choice questions, and this raw score is converted into a composite AP Exam score of 5, 4, 3, 2, or 1.

The score-setting process is both precise and labor intensive, involving numerous psychometric analyses of the results of a specific AP Exam in a specific year and of the particular group of students who took that exam.

Additionally, to ensure alignment with college-level standards, part of the score-setting process involves comparing the performance of AP students with the performance of students enrolled in comparable courses in colleges throughout the United States. In general, the AP composite score points are set so that the lowest raw score needed to earn an AP Exam score of 5 is equivalent to the average score among college students earning grades of A in the college course. Similarly, AP Exam scores of 4 are equivalent to college grades of A–, B+, and B. AP Exam scores of 3 are equivalent to college grades of B–, C+, and C.

Using and Interpreting AP Scores

College faculty are involved in every aspect of AP, from course and exam development to scoring and standards alignment. These faculty members ensure that the courses and exams meet colleges' expectations for content taught in comparable college courses. Based upon outcomes research and program evaluation, the American Council on Education (ACE) and the Advanced Placement Program recommend that colleges grant credit and/or placement to students with AP Exam scores of 3 and higher. The AP score of 3 is equivalent to grades of B–, C+, and C in the equivalent college course. However, colleges and universities set their own AP credit, advanced standing, and course placement policies based on their unique needs and objectives.

AP Score	Recommendation
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly qualified
1	No recommendation

Additional Resources

Visit apcentral.collegeboard.org for more information about the AP Program.

About the AP Capstone™ Program

AP Capstone™ is an innovative diploma program from the College Board that equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. AP Capstone is built on the foundation of two AP® courses — **AP Seminar** and **AP Research** — and is designed to complement and enhance the in-depth, discipline-specific study experienced in other AP courses.

In AP Seminar, students investigate real-world issues from multiple perspectives, gathering and analyzing information from various sources in order to develop credible and valid evidence-based arguments. AP Seminar is a prerequisite for AP Research. Completing AP Seminar and all its required assessment components is necessary for students to develop the skills to be successful in AP Research. In AP Research, students cultivate the skills and discipline necessary to conduct independent research and inquiry in order to produce and defend their scholarly work.

The AP Capstone program aims to empower students by

- ▶ engaging them with rigorous college-level curricula focused on the skills necessary for successful college completion;
- ▶ extending their abilities to synthesize information from multiple perspectives and apply skills in new situations and cross-curricular contexts;
- ▶ enabling them to collect and analyze information with accuracy and precision;
- ▶ cultivating their abilities to craft, communicate, and defend evidence-based arguments; and
- ▶ providing opportunities for them to practice disciplined and scholarly research skills while exploring relevant topics that appeal to their interests and curiosity.

Research Base

The big ideas and learning objectives in the AP Capstone program reflect the core academic skills needed for college, career, and life readiness identified by leading educational organizations and College Board membership, including the following:

- ▶ The American Association of Colleges and Universities (AAC&U), *College Learning for the New Global Century, Essential Learning Outcomes*
- ▶ Advanced Placement Program, skills and practices identified in AP courses
- ▶ The Partnership for 21st Century Skills (P21), *A Framework for 21st Century Learning*
- ▶ Association of College and Research Libraries, *Information Literacy Competency Standards for Higher Education*
- ▶ Council of Writing Program Administrators, *Framework for Success in Postsecondary Writing*

The AP Capstone Diploma™ and AP Seminar and Research Certificate™

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing will receive the AP Capstone Diploma™.

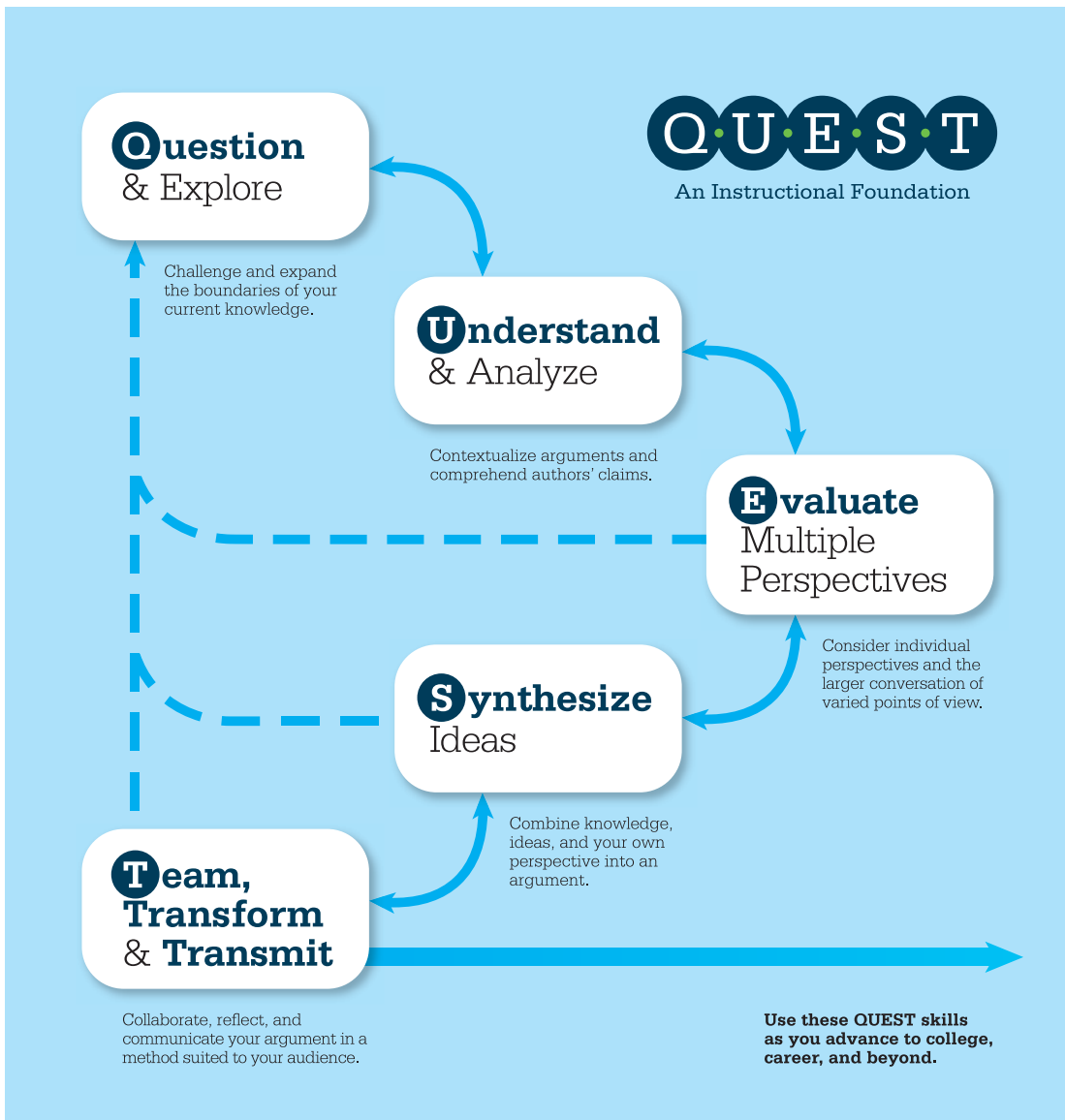
Students who earn scores of 3 or higher in AP Seminar and AP Research but not on four additional AP Exams will receive the AP Seminar and Research Certificate™.



AP Capstone Pedagogical Framework

Overview of the Pedagogical Framework

Throughout the program, students consider and evaluate multiple points of view to develop their own perspectives on complex issues and topics through inquiry and investigation. The AP Capstone program provides students with a framework that allows them to develop, practice, and hone their critical and creative thinking skills as they make connections between various issues and their own lives. Teachers should help students understand that this process is recursive, not linear. The recursive nature of this process allows students to go back and forth between the different stages of inquiry as they encounter new information.



AP Capstone Reasoning Processes

The AP Capstone program allows students to develop and practice reasoning processes that help them to make intentional, strategic decisions. It is important for teachers to understand these reasoning processes, which are embedded within the learning objectives:

- ▶ **Situating** — being aware of the context of one’s own as well as others’ perspectives, realizing that individual bias can lead to assumptions;
- ▶ **Choosing** — making intentional and purposeful choices, realizing that choices have both intended and unintended consequences;
- ▶ **Defending** — being able to explain and justify personal choices, logic, line of reasoning, and conclusions; and
- ▶ **Connecting** — seeing intersections within and/or across concepts, disciplines, and cultures.

AP Research Course Transferable Skills and Proficiencies

The AP Capstone reasoning processes are also embedded in the AP Research course transferable skills and proficiencies. The transferable skills and proficiencies are high-level descriptions of the understanding, knowledge, and skills that students should be able to apply in novel situations long after completing the AP Research course.

Transferable Skills	Produce Scholarly Work	Employ Research Practices	Analyze Sources and Evidence	Understand Context and Perspective	Communicate (interpersonal and intrapersonal)
Reasoning Processes	<i>Choose</i> <i>Connect</i> <i>Defend</i>	<i>Choose</i>	<i>Situate</i> <i>Choose</i>	<i>Situate</i> <i>Connect</i>	<i>Situate</i> <i>Choose</i> <i>Defend</i>
Proficiencies	<p>Establish Argument Demonstrating the significance of one’s research by explaining the rationale behind the choices made in the research process and logically connecting the findings to one’s conclusions or new understandings</p> <p>Select and Use Evidence Evaluating the significance of the findings, results, or product to the purpose or goal of one’s inquiry and strategically choosing such evidence to effectively support claims</p>	<p>Research Design Narrowing a focus of inquiry and identifying an aligned, ethical, feasible approach or method to accomplish the purpose of the research question and/or project goal</p>	<p>Understand and Analyze Argument Analyzing evidence for what is known about one’s topic of inquiry to further narrow (focus) and situate one’s research question or project goal</p> <p>Evaluate Sources and Evidence Evaluating the credibility, relevance, and significance of sources and evidence to the choices made in the inquiry process</p>	<p>Understand and Analyze Context Contextualizing the purpose and significance of one’s topic of inquiry within a broader field or discipline</p>	<p>Engage Audience Choosing and employing effective written and oral communication techniques, considering audience, context and purpose to convey and defend conclusions or new understandings</p> <p>Apply Conventions Choosing and consistently applying an appropriate citation style and effective conventions of writing</p> <p>Reflect Identifying challenges, successes, and moments of insight throughout one’s inquiry, which transformed one’s own thinking and reasoning</p>

AP Research Course Description

(Note: AP Seminar is a prerequisite for AP Research. Completing AP Seminar and all its required assessment components is necessary for students to develop the skills to be successful in AP Research.)

AP Research, the second course in the AP Capstone experience, allows students to deeply explore an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000–5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense.

AP Research Curricular Requirements

The curricular requirements are the core elements of an AP course. The curriculum framework and supporting documents provided during professional development serve as resources to assist teachers in determining the appropriate level of evidence to include within their syllabi to meet or exceed the requirements. (All AP Research teachers must attend College Board AP Research intensive training prior to their first year of teaching the AP Research course.)

Evidence of the following curricular requirements should be included in the course syllabus developed by the teacher and submitted to the College Board for review and approval.

- ▶ Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, Team, Transform, and Transmit.
- ▶ Students develop an understanding of ethical research practices and the AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information.
- ▶ In the classroom and independently (while possibly consulting any expert advisers), students learn and employ research and inquiry methods to develop, manage, and conduct an in-depth investigation of an area of personal interest, culminating in an academic paper of 4,000–5,000 words that includes the following elements:
 - › Introduction
 - › Method, Process, or Approach
 - › Results, Product, or Findings
 - › Discussion, Analysis, and/or Evaluation
 - › Conclusion and Future Directions
 - › Bibliography
- ▶ Using a process and reflection portfolio (PREP), students document their inquiry processes, communication with their teachers and any expert advisers as needed, and reflections on their thought processes. Students have regular work-in-progress interviews with their teachers to review their progress and to receive feedback on their scholarly work.
- ▶ Students develop and deliver a presentation (using an appropriate medium) and an oral defense to a panel on their research processes, method, and findings.

AP Research Curriculum Framework

Overview of the Curriculum Framework

Based on the Understanding by Design (Wiggins and McTighe) model, this curriculum framework is intended to provide a clear and detailed description of the course requirements necessary for student success. This conceptualization will guide the development and organization of learning outcomes from general to specific, resulting in focused statements about content knowledge and skills needed for success in the course. The curriculum framework contains the following structural components:

- ▶ The course is organized around five **big ideas**. Tied to each big idea are several **essential questions**. These are open-ended questions that encourage students to think deeply about a topic, ask additional questions and investigate solutions, and develop the deeper conceptual understanding that the course seeks to foster. Teachers should communicate to students that these big ideas are not meant to represent a linear progression of research processes but instead are a recursive set of ideas and skills that the student researcher will strengthen by the end of the research process.
- ▶ Within each big idea are several **enduring understandings**. These are the long-term takeaways related to the big ideas that a student should have after exploring the content and skills. These understandings are expressed as generalizations that specify what students will come to understand about the key concepts in the course. Enduring understandings are numbered to correspond to each big idea. The enduring understandings for the AP Seminar and AP Research courses are the same.
- ▶ Linked to each enduring understanding are the corresponding **learning objectives**. The learning objectives articulate what students need to be able to do in order to develop the enduring understandings. The learning objectives will become targets of assessment for the course. Learning objectives are numbered to correspond with the appropriate big ideas and enduring understandings.
 - › Learning objectives in italics with a blue shaded background represent those from the AP Seminar course that are not assessed in the AP Research course.
 - › Learning objectives with a green shaded background are those that do carry over from the AP Seminar course and should be used to develop instructional strategies and/or will be formally assessed by the summative assessment task components of the AP Research course.
- ▶ For each of the learning objectives, **essential knowledge** statements describe the facts and basic concepts that a student should know and be able to recall in order to demonstrate mastery of the learning objective. Essential knowledge components are numbered to correspond with the appropriate big ideas, enduring understandings, and learning objectives.
 - › Essential knowledge statements in italics with a blue shaded background are those from the AP Seminar course that do not carry over into the AP Research course.
 - › Essential knowledge statements with a green shaded background are those that do carry over from the AP Seminar course into the AP Research course.

Big Idea 1: Question and Explore

Inquiry and investigation begin when students encounter information about ideas, complex issues, and problems that stimulates their intellectual curiosity. They then continue the research process by developing a critical question about one or more of those complex issues or ideas. Seeking answers to such questions requires exploration of numerous, often competing perspectives; the context surrounding those perspectives; and the reliability and credibility of the perspectives. Through this exploration, students begin to develop their own perspectives, rather than simply accepting those of others. They consider the purpose of their research — what is supposed to be achieved and why. Ideally, they also develop additional questions that lead to further inquiry. The intrinsic value of asking and answering questions cannot be overstated. Giving students the opportunity to dig deeper and feed their curiosity makes for meaningful discoveries and discussions.

Essential Questions

- ▶ What do I want to know, learn, or understand?
- ▶ What questions have yet to be asked?
- ▶ How does my research question shape how I go about trying to answer it?
- ▶ How does my project goal shape the research or inquiry I engage in to achieve it?
- ▶ What information/evidence do I need to answer my research question?

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.1: Personal interest and intellectual curiosity inspire investigation of topics or issues that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further inquiry can lead to unexpected conclusions, resolutions, innovations, or solutions.</p>	<p>LO 1.1A: Contextualizing and identifying the complexities of a problem or issue.</p>	<p>EK 1.1A1: Examining the perspectives and ideas of others often leads to questions for further investigation. Inquiry begins with narrowing scope of interest, identifying a problem or issue and its origins within that scope, and situating the problem or issue in a larger context.</p>
	<p>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.</p>	<p>EK 1.1B1: Effective research questions lead to an examination taking into account the complexity of a problem or issue.</p> <p>EK 1.1B2: The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to complex issues.</p>

Note: The first time words from the glossary are used in the curriculum framework tables, they appear in bold blue text. The glossary begins on page 62.

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.1: Personal interest and intellectual curiosity inspire investigation of topics or issues that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further inquiry can lead to unexpected conclusions, resolutions, innovations, or solutions.</p> <p><i>(continued)</i></p>	<p>LO 1.1C: Identifying a topic of inquiry.</p>	<p>EK 1.1C1: Topics of inquiry may come from personal interest, passion for a discipline/field, desire to better understand a topic, or desire to address an issue in the world.</p>
		<p>EK 1.1C2: The inquiry process involves exploring the knowledge base associated with the topic of interest, including a variety of perspectives, and adjusting the scope of the topic to the parameters, requirements, and resources available for the project.</p>
		<p>EK 1.1C3: Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions.</p>
	<p>LO 1.1D: Articulating the purpose and significance of the scholarly inquiry.</p>	<p>EK 1.1D1: Scholars explore, explain, and create.</p>
		<p>EK 1.1D2: The purpose of scholarly inquiry is to address various kinds of problems (e.g., practical, theoretical, interpretive, aesthetic) and/or corroborate, challenge, or extend an existing idea.</p>
		<p>EK 1.1D3: Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community.</p>
	<p>LO 1.1E: Developing and revising a focused research question/project goal.</p>	<p>EK 1.1E1: A research question/project goal emerges from the scholar’s purpose (i.e., to explore, explain, and create).</p>
		<p>EK 1.1E2: A research question/project goal often requires multiple revisions to ensure it is appropriate in terms of scope and feasibility (time, resources).</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.2: Strengthening understanding of a concept or issue requires questioning existing ideas, using what is known to discover what is not known, and making connections to prior knowledge.</p>	<p>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.</p>	<p>EK 1.2A1: Understanding comes not only through collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, assumptions).</p> <hr/> <p>EK 1.2A2: A variety of strategies (e.g., brainstorming, concept mapping, prewriting, exploration of space, drafting) can be used to illustrate, organize, and connect ideas.</p> <hr/> <p>EK 1.2A3: Inquiry confirms or challenges one’s existing understandings, assumptions, beliefs, and/or knowledge.</p>
<p>EU 1.3: The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.</p>	<p>LO 1.3A: Accessing and managing information using effective strategies.</p>	<p>EK 1.3A1: Information used to address a problem may come from various secondary sources (e.g., articles, other studies, analyses, reports) and/or primary sources (e.g., original texts and works, material culture, or personally collected data such as from experiments, surveys, questionnaires, interviews, observations, personal narratives).</p> <hr/> <p>EK 1.3A2: Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.</p> <hr/> <p>EK 1.3A3: Advanced search tools, Boolean logic, and key words allow scholars to refine, focus, and/or limit their searches based on a variety of factors (e.g., date, peer-review status, type of publication).</p> <hr/> <p>EK 1.3A4: Consulting the bibliographies of other sources may provide additional ideas or resources.</p> <hr/> <p>EK 1.3A5: Social media may be used as a potential source of information, but an understanding of its limitations is necessary to maintain credibility.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.3: The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.</p> <p><i>(continued)</i></p>	<p>LO 1.3A: Accessing and managing information using effective strategies.</p> <p><i>(continued)</i></p>	<p>EK 1.3A6: Software (e.g., Microsoft Word, EndNote) and online tools (e.g., citation generators, WorldCat) are used by scholars to manage and catalog sources and produce bibliographies.</p>
<p>EU 1.4: The relevance and credibility of the source of information is determined by the context of its use.</p>	<p>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.</p>	<p>EK 1.4A1: The scope and purpose of one’s research and the credibility of sources affects the generalizability and the reliability of the conclusions.</p> <p>EK 1.4A2: Credibility of evidence depends on use of sources and data that are relevant and reliable (current, authoritative).</p> <p>EK 1.4A3: Determining the credibility of a source requires considering and evaluating the reputation and credentials of the author, publisher, site owner, and/or sponsor; understanding and evaluating the author’s perspective and research methods; and considering how others respond to their work. Scholarly articles are often peer-reviewed, meaning the research has been reviewed and accepted by disciplinary experts.</p> <p>EK 1.4A4: When gathering data on individuals’ behaviors, attitudes, and preferences, the accuracy and validity of such data depends on the honesty, memory, and reliability of the respondents and/or observers as well as the design of the data collection instrument.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</p>	<p>LO 1.5A: <i>Identifying the information needed for the context of the inquiry.</i></p> <p>LO 1.5B: Designing, planning, and implementing a scholarly inquiry.</p>	<p>EK 1.5A1: <i>The way the problem is posed, situated, framed, or contextualized will guide the inquiry process and influence the type of information needed and appropriate method of gathering it.</i></p> <p>EK 1.5B1: Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal.</p> <p>EK 1.5B2: Methods of inquiry may include research methods (e.g., qualitative, quantitative, or mixed) or artistic processes (e.g., generating, conceptualizing, testing, and then refining aesthetic approaches).</p> <p>EK 1.5B3: Throughout the process of determining scope and feasibility, the scholar may, where appropriate, adjust the course of inquiry and/or develop different tools, methods, and processes.</p> <p>EK 1.5B4: Artistic processes can include elements of research methods as well as the exploration and shaping/reshaping of media and form through activities such as workshopping, storyboarding, composing, choreographing, staging, and model-making.</p> <p>EK 1.5B5: Based on the research question or project goal, methods of data or information collection may be qualitative (e.g., open-ended survey questions, interviews, observational notes, interpretation of texts); may be quantitative (e.g., precise measurements, modeling, using structured and validated data collection instruments and procedures); or could include a combination of both qualitative and quantitative (mixed).</p> <p>EK 1.5B6: Scholars analyze data or information in a variety of ways appropriate to the inquiry.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</p> <p><i>(continued)</i></p>	<p>LO 1.5B: Designing, planning, and implementing a scholarly inquiry.</p> <p><i>(continued)</i></p>	<p>EK 1.5B7: Scholars identify reasons for choosing a sample of information, a population, or artifacts and understand the limits of the inferences or conclusions made based on the sample chosen.</p>
		<p>EK 1.5B8: Descriptive or inferential statistics can be used to display and/or analyze data.</p>
		<p>EK 1.5B9: Scholars often organize and categorize (or code) data/information to identify patterns or themes.</p>
		<p>EK 1.5B10: Scholars can combine qualitative and quantitative data/information to triangulate and corroborate trends, patterns, correlations, and/or themes.</p>
	<p>LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.</p>	<p>EK 1.5C1: Scholars carefully plan methods of inquiry, analysis, and other feasible research activities, taking into account deadlines, priorities, risks, setbacks, and the availability of others.</p>
		<p>EK 1.5C2: Scholars learn that setbacks are inevitable; they need to focus on the essential goals of the inquiry or project and be prepared to try alternate approaches or look to other disciplines in order to achieve them.</p>
		<p>EK 1.5C3: Experts in the field may provide guidance and/or discipline-specific knowledge or perspective. Scholars must understand how to seek advice while maintaining self-sufficiency.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</p> <p><i>(continued)</i></p>	<p>LO 1.5D: Employing ethical research practices.</p>	<p>EK 1.5D1: Scholars have ethical and moral responsibilities when they conduct research.</p> <p>.....</p> <p>EK 1.5D2: There are laws, rules, and guidelines that govern the conduct of researchers, in particular when studies involve humans and animals. Accordingly, scholars gain approval to conduct research with humans through an institutional review board (IRB).</p> <p>.....</p> <p>EK 1.5D3: There are copyright and patent laws and guidelines that govern the use and reproduction of others’ instruments, work, personal information, and intellectual property.</p>

Big Idea 2: Understand and Analyze

Developing understanding starts with comprehension of the concepts and perspectives under examination. Being able to summarize by identifying and explaining the salient ideas in a text is foundational. When students summarize and explain an author’s perspective to others, they are building understanding. Students must comprehend a perspective or argument in order to be able to analyze it. That analysis — including consideration of the author’s point of view and purpose, the reasoning and details the author selects, develops, and conveys, and the way the author chooses to situate those details — in turn leads to greater understanding of the topic or concept being explored. Students evaluate the validity of an argument by examining the strength of the line of reasoning and the quality of the evidence the author uses. This level of understanding allows students to recognize the implications and predict the consequences of an argument.

Essential Questions

- ▶ What strategies will help me comprehend a text?
- ▶ What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- ▶ What biases may the author have that influence his or her perspective?
- ▶ Does this argument acknowledge other perspectives?
- ▶ How can I assess the quality or strength of others’ research, products, or artistic works?

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 2.1: Authors express their ideas, perspectives, and/or arguments through their works. The first step in evaluating an author’s perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.</p>	<p>LO 2.1A: <i>Employing appropriate reading strategies and reading critically for a specific purpose.</i></p>	<p>EK 2.1A1: <i>Reading critically means reading closely to identify the main idea, tone, assumptions, context, perspective, line of reasoning, and evidence used.</i></p> <p>EK 2.1A2: <i>Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning.</i></p> <p>EK 2.1A3: <i>Strategies active readers use to make meaning from texts include annotating, note-taking, highlighting, and reading aloud.</i></p> <p>EK 2.1A4: <i>Perspectives are shared through written, spoken, visual, or performance texts. A perspective includes the writer’s attitude/ tone regarding the subject and is expressed through an argument.</i></p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 2.1: Authors express their ideas, perspectives, and/or arguments through their works. The first step in evaluating an author’s perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.</p> <p><i>(continued)</i></p>	<p>LO 2.1B: Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification.</p>	<p>EK 2.1B1: The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.</p> <hr/> <p>EK 2.1B2: Artistic works (e.g., painting, film, music, dance) convey a perspective. Analysis of a work’s context, subject, structure, style, and aesthetic is critical to understanding its aims.</p>
<p>EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.</p>	<p>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</p>	<p>EK 2.2A1: Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.</p> <hr/> <p>EK 2.2A2: An argument’s line of reasoning is organized based on the argument’s purpose (e.g., to show causality, to define, to propose a solution).</p> <hr/> <p>EK 2.2A3: Inductive reasoning uses specific observations and/or data points to identify trends, make generalizations, and draw conclusions. Deductive reasoning uses broad facts or generalizations to generate additional, more specific conclusions about a phenomenon.</p> <hr/> <p>EK 2.2A4: A lack of understanding of the complexities of an argument (tone, implications, limitations, nuance, context) can lead to oversimplification and/or generalization.</p> <hr/> <p>EK 2.2A5: Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.</p> <p><i>(continued)</i></p>	<p>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</p>	<p>EK 2.2B1: An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation.</p> <p>EK 2.2B2: Writers use qualitative and/or quantitative evidence (e.g., facts, data, observations, predictions, analogies, explanations, opinions) to support their claims. Evidence has varying degrees of validity.</p> <p>EK 2.2B3: Authors strategically include evidence to support their claims.</p> <p>EK 2.2B4: Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).</p> <p>EK 2.2B5: Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.</p> <p>EK 2.2B6: Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own biases.</p>
<p>LO 2.2C: Evaluating the validity of an argument.</p>	<p>LO 2.2C: Evaluating the validity of an argument.</p>	<p>EK 2.2C1: <i>An argument is valid when there is logical alignment between the line of reasoning and the conclusion.</i></p> <p>EK 2.2C2: Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases.</p> <p>EK 2.2C3: Conclusions are contextual and their validity must be affirmed, qualified, or refuted.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.</p> <p><i>(continued)</i></p>	<p>LO 2.2D: Evaluating and critiquing others’ inquiries, studies, artistic works, and/or perspectives.</p>	<p>EK 2.2D1: Scholars analyze and evaluate others’ studies and artistic works in terms of internal coherence and alignment of the purposes, goals, and methods of inquiry.</p>
<p>EU 2.3: Arguments have implications and consequences.</p>	<p>LO 2.3A: Connecting an argument to broader issues by examining the implications of the author’s claim.</p> <hr/> <p>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument.</p>	<p>EK 2.3A1: The implications and consequences of arguments may be intended or unintended.</p> <hr/> <p>EK 2.3B1: Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).</p>

Big Idea 3: Evaluate Multiple Perspectives

Understanding the complexity of an issue, idea, or problem requires students to compare and contrast different perspectives. These multiple perspectives, which may support, oppose, compete with, or otherwise vary from one another, come together to create the conversation on the issue. Students must consider the biases and assumptions behind those perspectives in order to evaluate their relevance and importance in the conversation. Evaluating multiple perspectives and arguments allows students to better understand the complexities of an issue or topic.

Essential Questions

- ▶ How might others see a problem or issue differently?
- ▶ What patterns or trends can be identified among the arguments about this issue?
- ▶ What are the implications and/or consequences of accepting or rejecting a particular argument?
- ▶ How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?
- ▶ How can I explain contradictions within or between arguments?
- ▶ From whose perspective is this information being presented, and how does that affect my evaluation?

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
EU 3.1: Different perspectives often lead to competing and alternative arguments. The complexity of an issue emerges when people bring these differing, multiple perspectives to the conversation.	LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.	EK 3.1A1: An individual's perspective is influenced by his or her background (e.g., experiences, culture, education), assumptions, and worldview, as well as by external sources. EK 3.1A2: Perspectives are not always oppositional; they may be concurring, complementary, or competing. EK 3.1A3: Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.
EU 3.2: Not all arguments are equal; some arguments are more credible/valid than others. Through evaluating others' arguments, one's own argument can be situated within a larger conversation.	LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.	EK 3.2A1: Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic. EK 3.2A2: When evaluating multiple perspectives or arguments, consideration must be given to how one's own personal biases and assumptions can influence one's judgment.

Big Idea 4: Synthesize Ideas

Once enough information is gathered and evaluated, students synthesize their accumulated knowledge, emerging ideas, and perspectives to form conclusions of their own. Students must consider other points of view but also analyze material to develop their own perspectives and scholarly works. The goal is for students to think critically about the information and then add to, not simply repeat, the ideas of others. In this way, students establish a unique, creative voice within the larger conversation.

Essential Questions

- ▶ How do I connect and analyze the evidence in order to develop an argument and support a conclusion?
- ▶ Are there other conclusions I should consider?
- ▶ How does my scholarly work emerge from my perspective, design choices, or aesthetic rationale?
- ▶ How do I acknowledge and account for my own biases and assumptions?
- ▶ What is the most appropriate way to acknowledge and attribute the work of others that was used to support my argument? How do I ensure the conclusions I present are my own?

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.</p>	<p>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.</p>	<p>EK 4.1A1: Effective arguments use reason and evidence to convey a perspective, point of view, or some version of the truth that is stated or implied in the thesis and/or conclusion.</p> <p>EK 4.1A2: Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.</p> <p>EK 4.1A3: Qualifiers place limits on how far a claim may be carried. Effective arguments acknowledge these limits, increasing credibility by reducing overgeneralization or oversimplification.</p> <p>EK 4.1A4: Effective arguments may acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).</p> <p>EK 4.1A5: The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.</p> <p><i>(continued)</i></p>	<p>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.</p> <p><i>(continued)</i></p>	<p>EK 4.1A6: The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion).</p> <hr/> <p>EK 4.1A7: A line of reasoning is organized based on the argument’s purpose (e.g., to show causality, to evaluate, to define, to propose a solution).</p> <hr/> <p>EK 4.1A8: Claims and supporting evidence are arranged (e.g., spatially, chronologically, order of importance) to convey reasoning and relationship (e.g., comparative, causal, correlational).</p> <hr/> <p>EK 4.1A9: The same argument may be organized, arranged, or supported in multiple ways depending on audience and context.</p> <hr/> <p>EK 4.1A10: Whether developing an argument or conceptualizing an idea or work of art, scholars thoughtfully choose and implement a process aligned with the inquiry or project goal.</p> <hr/> <p>EK 4.1A11: Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.</p> <hr/> <p>EK 4.1A12: An aesthetic rationale is an argument in that it is a reasoned articulation of specific formal and stylistic choices made in the course of devising the artistic work.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.</p> <p><i>(continued)</i></p>	<p>LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.</p>	<p>EK 4.1B1: Each discipline has its own conventions and ways of knowing, questioning, and communicating.</p> <p>EK 4.1B2: Scholars apply discipline-specific terminology in the analysis of scholarly works.</p> <p>EK 4.1B3: The different disciplines and associated ways of knowing and valuing information are discovered in part through engaging with discipline-specific foundational texts and works.</p> <p>EK 4.1B4: Disciplines may be broadly or narrowly defined. Disciplines can intersect or be combined to provide new understandings or perspectives.</p>
<p>EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.</p>	<p>LO 4.2A: Interpreting, using, and synthesizing qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, nonprint) to develop and support an argument.</p>	<p>EK 4.2A1: Evidence can be collected from print and nonprint sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations).</p> <p>EK 4.2A2: Evidence is used to support the claims and reasoning of an argument. Compelling evidence is sufficient, accurate, relevant, current, and credible to support the conclusion.</p> <p>EK 4.2A3: Evidence is strategically chosen based on context, purpose, and audience. Evidence may be used to align an argument with authority; to define a concept, illustrate a process, or clarify a statement; to set a mood; to provide an example; to amplify or qualify a point.</p> <p>EK 4.2A4: The evidence selected and attributed contributes to establishing the credibility of one’s own argument.</p>
	<p>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims.</p>	<p>EK 4.2B1: Commentary connects the chosen evidence to the claim through interpretation or inference, identifying patterns, describing trends, and/or explaining relationships (e.g., comparative, causal, correlational).</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.</p>	<p>LO 4.3A: Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.</p>	<p>EK 4.3A1: Accurate and ethical attribution enhances one's credibility.</p> <hr/> <p>EK 4.3A2: Plagiarism is a serious offense that occurs when a person presents another's ideas or words as his or her own. Plagiarism may be avoided by acknowledging sources thoroughly and accurately.</p> <hr/> <p>EK 4.3A3: Source material should be introduced, integrated, or embedded into the text of an argument.</p> <hr/> <p>EK 4.3A4: Quoted and paraphrased material must be properly attributed, credited, and cited following a style manual. Quoting is using the exact words of others; paraphrasing is restating an idea in one's own words.</p> <hr/> <p>EK 4.3A5: Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).</p> <hr/> <p>EK 4.3A6: Appropriation in works of art has potential legal and ethical implications that scholars need to consider (e.g., scholars must credit works that are used in visual/audio sampling, parody, choreography).</p>
<p>EU 4.4: Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.</p>	<p>LO 4.4A: Extending an idea, question, process, or product to innovate or create new understandings.</p>	<p>EK 4.4A1: Innovative solutions and arguments identify and challenge assumptions, acknowledge the importance of content, imagine and explore alternatives, and engage in reflective skepticism.</p>
<p>EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities and consequences.</p>	<p>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</p>	<p>EK 4.5A1: When making choices and proposing solutions, the advantages and disadvantages of the options should be weighed against the goal within its context.</p>

Big Idea 5: Team, Transform, and Transmit

Collaboration, communication, and reflection are skills that provide opportunities for students to develop their learning. When collaborating, students draw upon their own strengths and the strengths of a team of peers, expert advisers, and teachers to achieve their best possible work. Students should engage in peer review and personal revision to refine and tailor their arguments.

An argument is effectively communicated when its purpose is clear, it is tailored to a specific audience and context, and it is conveyed through a medium appropriate and appealing to the intended audience. Adhering to standard language conventions and engaging delivery techniques establishes a writer's or speaker's credibility with his or her audience. Sometimes arguments or perspectives are associated with and accompanied by an innovation or artistic work. These works should make clear the artistic choices for the aesthetic rationale or focus on one perspective over another.

Whether working alone or in a group, students reflect on their work and learning processes, which can lead to personal growth as well as even more effective inquiry, learning, and collaboration.

Essential Questions

- ▶ How can I best appeal to and engage my audience?
- ▶ What is the best medium or genre through which to reach my audience?
- ▶ How might I adapt my written and oral presentations for different audiences and situations?
- ▶ How might my communication choices affect my credibility with my audience?
- ▶ Which revision strategies are most appropriate to developing and refining my project at different stages?
- ▶ How do I provide feedback that is valuable to others? How do I act upon feedback I have received?
- ▶ How can I benefit from reflecting on my own work?

Note: LO 5.1A and EK 5.1A1 are different for AP Seminar [S] and AP Research [R].

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on audience, purpose, and context.</p>	<p>LO 5.1A[S]: <i>Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose.</i></p>	<p>EK 5.1A1[S]: <i>An argument may include the following elements:</i></p> <ul style="list-style-type: none"> ▶ <i>Introduction: engages the audience by providing background and/or context</i> ▶ <i>Thesis: conveys the main idea of an argument</i> ▶ <i>Reasons, evidence, and commentary: provide support for the argument</i> ▶ <i>Counterargument, concession, refutation, and rebuttal: acknowledge and/or respond to opposing arguments</i> ▶ <i>Conclusion: synthesizes reasoning, considers possible implications for the future, and ties back to the introduction</i> ▶ <i>Bibliography: identifies works cited</i>
	<p>LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose.</p>	<p>EK 5.1A1[R]: Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:</p> <ul style="list-style-type: none"> ▶ <i>Introduction: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and identifies the gap in the current field of knowledge to be addressed</i> ▶ <i>Method, process, or approach: explains and provides justification for the chosen method, process, or approach</i> ▶ <i>Results, Product, or Findings: presents the results, product, evidence, or findings</i> ▶ <i>Discussion, Analysis, and/or Evaluation: interprets the significance of the results, product, or findings; explores connections to original research question/project goal; discusses the implications and limitations of the research or creative work</i> ▶ <i>Conclusion and Future Directions: reflects on the process and how this project could impact the field; discusses possible next steps</i> ▶ <i>Bibliography: provides a complete list of sources cited and consulted in the appropriate disciplinary style</i>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on audience, purpose, and context.</p> <p><i>(continued)</i></p>	<p>LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose.</p> <p><i>(continued)</i></p>	<p>EK 5.1A2: Coherence is achieved when the elements and ideas in an argument flow logically and smoothly. Transitions are used to move the audience from one element or idea to another by illustrating the relationship between the elements or ideas.</p>
<p><i>(continued)</i></p>	<p>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</p>	<p>EK 5.1B1: A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.</p>
		<p>EK 5.1B2: Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense.</p>
		<p>EK 5.1B3: Precision in word choice reduces confusion, wordiness, and redundancy.</p>
		<p>EK 5.1B4: Spelling and grammar errors detract from credibility.</p>
<p>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</p>	<p>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</p>	<p>EK 5.1C1: Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding.</p>
		<p>EK 5.1C2: Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.</p>
		<p>EK 5.1C3: Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis) according to context, purpose, and audience.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on audience, purpose, and context.</p> <p><i>(continued)</i></p>	<p>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</p>	<p>EK 5.1D1: Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose.</p> <hr/> <p>EK 5.1D2: Scholars should articulate their choices and content in a language that is not discipline-specific to communicate effectively to nonexperts or people outside the discipline.</p>
<p>LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance.</p>	<p>LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance.</p>	<p>EK 5.1E1: Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) to emphasize information, convey tone, and engage their audience.</p> <hr/> <p>EK 5.1E2: Scholars present, perform, and/or produce their work in multiple ways. This may take discipline-specific forms (e.g., portfolios, exhibits, performances, showcases, premieres, posters), but may also cross disciplinary boundaries.</p> <hr/> <p>EK 5.1E3: Scholars present, perform, and/or produce their completed work after multiple revisions or rehearsals (e.g., responding to audience feedback, self-critique of recorded performance) and polishing.</p>
<p>LO 5.1F: Defending inquiry choices and final product with clarity, consistency, and conviction.</p>	<p>LO 5.1F: Defending inquiry choices and final product with clarity, consistency, and conviction.</p>	<p>EK 5.1F1: Scholars effectively articulate the rationale for inquiry choices in relation to the completed work.</p> <hr/> <p>EK 5.1F2: Scholars engage thoughtfully with their audiences' critiques and questions.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.2: Teams are most effective when they draw on the diverse perspectives, skills, and backgrounds of team members to address complex, open-ended problems.</p>	<p>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or a goal.</p>	<p>EK 5.2A1: Knowing and communicating one’s strengths and challenges to a group allows one’s contributions to be more effective.</p>
	<p>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.</p>	<p>EK 5.2B1: Teams are built around tasks. Low-risk teambuilding activities and simulations enhance a team’s performance.</p>
		<p>EK 5.2B2: Teams function at their best when they understand the diversity of their social-cultural perspectives, talents, and skills.</p>
		<p>EK 5.2B3: Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation.</p>
<p>EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.</p>	<p>LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes.</p>	<p>EK 5.3A1: Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation.</p>
		<p>EK 5.3A2: Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.</p>
		<p>EK 5.3A3: Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation.</p>
		<p>EK 5.3A4: Scholars reflect on how the inquiry process helped them deepen their understanding, make important connections, and develop greater self-direction.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.</p> <p><i>(continued)</i></p>	<p>LO 5.3B: <i>Reflecting on experiences of collaborative effort.</i></p>	<p>EK 5.3B1: <i>Reflection acknowledges the impact of actions on both the group and individual contributions, noting the reasons for such actions, assumptions made, and whether or not such actions and assumptions hindered or helped the achievement of the group’s and individuals’ tasks.</i></p>
	<p>LO 5.3C: Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work.</p>	<p>EK 5.3C1: Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work.</p> <p>EK 5.3C2: Reflective scholars acknowledge how their inquiry processes and resulting works can be transformational for their own and others’ understanding as well as for their personal identities as scholars.</p>
<p>EU 5.4: Scholars perform, present, and/or produce their work within a larger community. Throughout the inquiry process, scholars interact with and benefit from the scholarly community through thoughtful engagement with the opinions and critiques of others.</p>	<p>LO 5.4A: Engaging in peer review to provide constructive responses to one another’s work, appropriate to the stage of a project’s development.</p>	<p>EK 5.4A1: Peer review should be based on guidelines and defined criteria appropriate to the work.</p>
	<p>LO 5.4B: Engaging in peer review to receive and consider responses to their work.</p>	<p>EK 5.4B1: Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.</p> <p>EK 5.4B2: Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.</p>

AP Research Instructional Approaches

Organizing the Course

Inquiry and the Academic Conversation

Critical inquiry focuses on the creation of new ideas, perspectives, and arguments. Teachers must help students understand that the research process is not simply about collecting evidence or facts and then piecing them together. Instead, the research process is about *inquiry* — asking questions and coming to solutions and conclusions through serious thinking and reflection. The researcher seeks relevant information in articles, books, and other sources and develops an informed perspective built upon, but not merely derivative of, the ideas in the examined material. As a result, the research process is recursive, meaning that the researcher regularly revisits ideas, seeks new information when necessary, and reconsiders and refines the research questions, topic, and/or approach. Additionally, students should understand that sometimes the inquiry leads to the development of an additional piece of scholarly work (e.g., product, exhibit, performance).

Facilitating students' entrance into academic or real-world conversations about complex issues is a key goal of both the AP Seminar and AP Research courses. The AP Seminar course aims to build independent, critical thinkers by empowering students to develop the skills and traits necessary for future academic study through the examination of multiple perspectives, evaluation of credibility of sources, and construction of arguments. The AP Research course provides students the opportunity to build upon these skills by choosing and deeply exploring a topic or question of personal interest and developing and defending a more comprehensive argument and conclusion. Throughout the research or inquiry process, students document and reflect on feedback received and on their own thinking, writing, and creative processes through a process and reflection portfolio. The AP Research course culminates in the students' presentation and oral defense of their academic paper.

Organizational Models

AP Research can be organized in a variety of ways to best address student interests, state and district goals and requirements, and local school traditions and culture. Four examples are illustrated in the table on the next page.

AP Research Model	Description	Example Courses
Disciplinary Focus	The course content is grounded in a specific discipline.	<p>AP Research: STEM Inquiries</p> <p>This course is offered as an elective in science or math. The units of study focus on developing students' understanding and implementation of research methods in STEM fields for an inquiry investigation of the students' choice.</p> <p>AP Research: Performing and Visual Arts</p> <p>This course is offered as an elective for students with an interest in the various arts disciplines. The units of study focus on developing students' understanding and implementation of inquiry in the arts with an emphasis on developing a product, performance, or exhibit alongside the academic paper, presentation, and oral defense.</p>
Internship	The course provides a framework for students in extracurricular internships of any discipline to receive credit for their research as long as it adheres to the AP Research course assessment task descriptions and scoring guidelines.	<p>AP Research: Independent Study</p> <p>This course is intended for students who are already working with a discipline-specific expert adviser to conduct independent study in research of the student's choosing. The teacher must act as the course facilitator in ensuring the expert adviser and student are aware of the course curricula, assessments, and timeline. The teacher of record will still be responsible for scoring and uploading the students' work.</p>
Thematic Survey Linked to AP Course	AP Research students are concurrently enrolled in another common AP course, allowing for team teaching and connecting of AP course-specific content with AP Research skills and culminating in an academic paper, presentation, and oral defense.	<p>AP Research: Biology</p> <p>Students are concurrently enrolled in AP Biology allowing for cross-curricular connections between the two courses. Inquiry topics chosen by students are researched using the methods common to the field of biology.</p>
General	The course focuses on research methods of two or more disciplines rather than any one specific field.	<p>Research Methods</p> <p>Students develop an understanding of the different disciplines' paradigms, ways of knowing, and inquiry methods for the purpose of determining which method best fits their chosen topic of inquiry/research question. Each student then uses a selected method to complete his or her investigation.</p>

Bridging from the AP Seminar Course to the AP Research Course

To prepare AP Seminar students to enter the next course in the AP Capstone program — AP Research — teachers should provide them with a preview of the skills, goals, and timelines of the AP Research course. Upon completion of the AP Seminar assessment tasks in May, students who will continue on to the AP Research course should be given the opportunity to:

- ▶ develop a list of topics and high-level questions to spark their interest in engaging in an individual research project;
- ▶ identify potential expert advisers to guide them in the planning and development of their research project;
- ▶ identify potential opportunities (if they are interested) to perform primary research with an expert adviser during the summer, via internships or summer research projects for high school students offered in the community and local higher education institutions; and
- ▶ discuss research project planning skills and ideas with students who are currently taking the AP Research course.

In schools that permit students to begin the AP Research course in the summer, the AP Seminar and AP Research course instructors should provide AP Research students with additional instruction, assignments, and avenues for continued communication to guide them through the research planning process during the summer months.

A Sample Timeline

Students' online proposal forms for the Academic Paper must be approved by the course instructor by November 30. The scores for the AP Research Academic Paper and Presentation and Oral Defense must be uploaded by April 30. AP Research teachers should devise a timeline to ensure adherence to these due dates and to reflect the needs of the students, the culture of the school, and students who may begin research in the summer via internships. A sample timeline follows on the next page.

Month	Task
May (End of AP Seminar Course)	AP Seminar students consider topics, problems, or ideas for inquiry and practice developing research questions.
June–September	Students choose a topic/issue, carry out preliminary research, develop an annotated bibliography, and finalize a research question and proposal.
September–October	Students present a preliminary inquiry proposal for peer review; identify the need for, recruit, and begin communication with expert advisers; finalize and submit a proposal; and reflect on feedback received.
October–November	Students complete the background component of their inquiry and finalize the choice and design of their inquiry method. If necessary, they submit a revised version of their proposal for final approval. <i>Proposals should be approved by the teacher no later than November 30.</i>
November–January	Students implement their inquiry methods while engaging in progress and reflection interviews with the teacher to ensure challenges with methods and time management are addressed. <i>Students curate the inquiry process, writing, and reflection artifacts from September to March in their process and reflection portfolios (PREP).</i>
January–March	Students write, proofread, peer review, and submit their academic papers, ensuring all components are present and meet rubric criteria. <i>Students finalize additional scholarly work or product if such was required as a result of their inquiry.</i>
March–April	Teachers score and students present their work. <ul style="list-style-type: none"> ▶ March 15–30: Students complete papers. ▶ April 1–15: Students prepare, practice, and deliver presentations with oral defense. <i>Students must arrange for viewing of additional scholarly work by teacher and panelists prior to giving their presentations and oral defense (where applicable).</i> ▶ April 15–30: Teachers finalize and upload scores for papers and presentations with oral defense.
April–May	AP Research students present summary of work and lessons learned to AP Seminar students.

Teaching the Skills

The focus of the AP Capstone Program courses is on skill development: students practice, refine, and master the skills critical for academic success. The curriculum framework identifies the learning objectives and essential knowledge that address the core skills listed below in more detail. As teachers create instructional units, they should carefully plan so that such skills are developmentally sequenced. Using the representative instructional strategies illustrated in the table below, teachers should provide AP Research students with multiple opportunities to engage in the core skills of the course.

Core Skill Area	Description	Representative Instructional Strategies
Identifying and Refining Research Questions	The process of narrowing a scope of interest into a research question to serve as the foundation of a long-term investigation or inquiry.	<p>Graphic Organizers</p> <p>Teachers provide a visual system for organizing multiple ideas, perspectives, and/or arguments and their supporting evidence for the purpose of narrowing a field of interest into a focused problem, topic of inquiry, or research question. Examples include Venn diagrams, flow-charts, and mind maps.</p> <p>Question Formulation Technique</p> <p>Teachers provide a stimulus from which students openly brainstorm questions, categorize questions as <i>open</i> or <i>closed</i>, and work on improving them.</p> <p>I-Search</p> <p>Students perform a quick search and complete a quickwrite that identifies the research questions within three to five published research studies and lists the criteria that make these research questions capable of sustaining a long-term scholarly study.</p> <p>Peer Review</p> <p>Students work with peers and expert advisers to critique and revise research questions to be focused, open-ended, and capable of sustaining a long-term investigation.</p> <p>Elevator Pitch</p> <p>Students present a 2-minute summary of the chosen topic of inquiry, research question, and purpose of the study to determine whether or not others clearly understand the focus of the study.</p>

Core Skill Area	Description	Representative Instructional Strategies
Seeking and Synthesizing Background Information	The process of becoming familiar with and synthesizing what others have discovered about the topic so that the scholar can verify the existence of a problem or gap in the knowledge base to form the basis of a long-term investigation.	<p>Working with LEADS</p> <p>Students identify others' studies and findings in order to:</p> <ul style="list-style-type: none"> ▶ Lay the foundation for their own study ▶ Elucidate the selected problem or topic of inquiry ▶ Analyze why their study is appropriate ▶ Describe why their study is capable of solving a problem or producing a work ▶ Show studies similar to theirs <p>Annotated Bibliography of Context and Background</p> <p>Students perform a review of the literature of the field. For each source/article students write a brief summary of a text and a commentary on its usefulness to the inquiry along with the citation.</p> <p>Source Mining</p> <p>Students review the bibliographies of research studies or articles on a topic to see which names or works appear repeatedly to get an overview of key scholars in the field.</p>
Aligning Study Design	The process of identifying an aligned, feasible research or inquiry design to accomplish the purpose of the research question and/or project goal while taking into consideration time constraints, availability of resources, participant accessibility, and paperwork due to ethics guidelines.	<p>Annotated Bibliography of Methods</p> <p>Students write citations and brief summaries of the research questions and methods of scholarly, peer-reviewed studies on their chosen topic along with commentaries on those methods' alignment with their own chosen study design or approach.</p> <p>Poster Presentation and Peer Review</p> <p>Students present a poster showing the research question, purpose of study, background and context information, and chosen or designed method for collecting information to engage others in peer reviewing the feasibility and alignment of the study design, approach, or method.</p>

Core Skill Area	Description	Representative Instructional Strategies
Analyzing and Evaluating Findings	The process of interpreting the significance of the findings, results, or product and exploring connections to the original research question and project goal.	<p>Flow Chart Students present the connections between the research question and information collected and rank the significance or importance of the findings to the purpose of the study.</p> <p>Statistical Analyses Students use descriptive or inferential statistics to categorize and summarize large data sets to determine the significance of the data to the research question and purpose of the study.</p> <p>Data Table and Graphical Analyses Students plot or categorize images, graphs, and/or other visual presentations of data or information into chunks for the purpose of determining the significance of the findings or results to the research question and purpose of the study.</p>
Engaging with Discipline-Specific Expert Advisers	The process of communicating with experts in the discipline or field of study to obtain guidance and feedback on one’s research question, study purpose, interpretation of findings, or extended piece of scholarly work.	<p>Online File Access and Feedback Students use online word processors (e.g., Google Docs) and storage systems (e.g., DropBox) to share documents and get feedback from experts in the field or discipline of study.</p> <p>Email or Video Chat Students schedule regular communication via text or video platform with an expert in the discipline or field of study.</p>
Peer Review	The process of providing and receiving timely, constructive feedback according to a set of guidelines in order to improve one’s critical eye and scholarly work.	<p>Rubric Review Students identify and comment on aspects of sample student work that align with a designated rubric’s criteria.</p> <p>Compliments and Suggestions Using peer-editing guidelines, students provide three positive notes and three revision suggestions on peers’ scholarly work.</p>
Showcasing Scholarly Work	The process of conveying a clear message in a way that engages and appeals to a specific audience.	<p>Public Practice and Peer review Students provide structured reviews of one another’s presentations according to a set of established guidelines (e.g., must not be personal, must be constructive with suggestions for improvement).</p>

Core Skill Area	Description	Representative Instructional Strategies
Showcasing Scholarly Work <i>(continued)</i>	The process of conveying a clear message in a way that engages and appeals to a specific audience. <i>(continued)</i>	Videotaping: Self-Evaluation and Reflection Students review recordings of their own presentations with guided reflection questions focusing on specific techniques. Practice Modeling Teachers model for students the different techniques for emphasizing ideas and engaging an audience (e.g., eye contact, vocal variety, emphatic gestures).
Defending Inquiry Outcomes	The process of demonstrating the significance of one’s research by explaining the research process, findings, conclusions, and reflections to those in attendance.	Peanut Gallery Students deliver short presentations to their peers, with their peers asking critical questions and providing constructive feedback on the clarity, validity, and coherence of the scholarly work.
Reflecting	The process of making learning goals, assessing one’s achievement toward such goals, and identifying both challenges that hindered and effective strategies that helped one achieve the goals.	Research Process and Reflection Portfolio Students document and curate scholarly work with reflective commentary on the artifacts they’ve chosen to reflect moments of insight, clarity, and growth. Students record documentation of daily work, questions, and challenges pertaining to the development and completion of the scholarly inquiry, including responses to such guiding reflection questions as: <ul style="list-style-type: none"> ▶ Identify personal insights, moments of critical questioning, and comments or ideas from today’s work that have impacted you. ▶ Describe why these insights, questions, and ideas are important to you. What effect do they have and what dilemmas, questions, or possibilities do they raise? ▶ How do these issues affect the clarity, order, confusion, or chaos of your thinking?
Strengthening Self-Directedness and Time Management	The process of personally identifying tasks, setting deadlines, and holding oneself accountable to achieve a learning goal or create a scholarly product.	Biweekly WIPs Teachers provide opportunities for scholars to present their work in progress (WIP) to their peers and to receive feedback on addressing challenges, time management, or even data interpretation.

Formative Assessments

In addition to developing instructional activities and units of study that engage students in the AP Research course content, teachers should develop formative assessments to effectively prepare students for the AP Research Through-Course Performance Task components: the Academic Paper and the Presentation and Oral Defense.

Examples of formative assessments and suggestions for when to implement them are described in the table below. These are not meant to be graded assessments; they are intended as opportunities for students and teachers to evaluate student progress, address problems or misconceptions, and improve student learning.

Timeline	Formative Assessment	Purpose
September–October	Rubric and Evaluation of Papers	Apply assessment rubric components for the academic paper to sample student papers and identify the different levels of achievement evidenced in those samples.
	Annotated Bibliography I: Topic of Inquiry Background	Effectively search for and identify a broad range of perspectives and scholarly sources of information for the chosen field of study.
	Focused Topic of Inquiry	Exhibit knowledge of the field of interest and develop a narrow, novel, researchable problem, topic, or idea.
October–November	Peer Review of Research Questions	Differentiate between well- and poorly formed research questions, and offer/receive feedback on research question drafts.
	Finalization of Research Question and Purpose of Inquiry	Develop a clearly articulated research question that is capable of being researched at this level and clearly articulate the purpose/goals of the inquiry.
	Annotated Bibliography II: Discipline-Specific Style with Literature Review	Perform an in-depth literature review that outlines the scholarly source materials used and how the materials offer information and views relating to the question. Demonstrate comprehensiveness of the literature review as exhibited by breadth, relevance, currency, availability, and authority within chosen resources, using the discipline-specific style common to the field of study.
	Annotated Bibliography III: Inquiry Methods of the Field of Study	Identify the research question, variables, measurements, and limitations within published quantitative, qualitative, and mixed-methods research studies. Differentiate between the purpose and components of quantitative, qualitative, and mixed-methods studies.

Timeline	Formative Assessment	Purpose
October–November <i>(continued)</i>	Poster Presentation of Research Proposal	Effectively articulate the focused topic of inquiry, research question, overview of the knowledge of the field, gap the chosen inquiry fills, and selected or designed method of inquiry to collect data to address research question or inquiry topic.
November–March	Inquiry Method Design	Describe procedures used for analysis in sufficient detail to permit understanding of how the data were analyzed and the processes and assumptions underlying specific techniques. Evaluate the fit between the purpose of the proposal, its research design, and its data collection strategy.
	Biweekly Work in Progress Interview	Exhibit regular maintenance of a research portfolio to record revisions, amendments, and reflections during the inquiry process. Prepare and periodically update timetable or project plan that clearly outlines what activities must be accomplished and the deadlines by which the objectives of the course must be achieved.
	Biweekly Peer Review	Review and revise the elements of the academic paper with attention paid to the purpose, research question, and research method to ensure clarity and alignment and to address peer, teacher, and expert adviser feedback.
March–April	Practice Presentations	Exhibit polished articulation and effective presentation of the inquiry performed.
	Peer Panels	Exhibit depth of knowledge of topic of inquiry and articulation of choices made in design and interpretation/ synthesis of evidence through the research project through responses to feedback and suggestions for revision.
May–End of School	Process and Reflection Portfolio: Exit Interview	Articulate moments of insight, challenge, and change in thought processes as exhibited by the curation of the inquiry process in the portfolio.

Selecting and Accessing Resources

When selecting texts for study, teachers should challenge students to engage with and analyze complex and scholarly sources. Helping students with the identification of scholarly materials requires a discussion of peer review, which differentiates scholarly from nonscholarly sources in an academic research community. Students should be invited to find and contribute texts for study, providing them opportunities to make connections of their own.

Access to a variety of print and online style guides, writing and argumentation handbooks, databases, and other reference materials is essential to equip students and teachers with the tools necessary for research and communication. To supplement the access to scholarly source databases that teachers provide to students, the College Board will provide both teachers and students free access to EBSCOhost. More information about gaining access will be given to teachers during the mandatory professional development.

AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information

Participating teachers shall inform students of the consequences of plagiarism and instruct students to ethically use and acknowledge the ideas and work of others throughout their course work. The student's individual voice should be clearly evident, and the ideas of others must be acknowledged, attributed, and/or cited.

A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

Engaging Community Members

Community members can play an integral role in students' experiences with scholarly research. Discipline-specific expert advisers can guide students' formulation of research questions, interpretation of data, and the academic paper or presentation revision process as well as provide critical, constructive feedback to strengthen students' voices in the academic conversation. Institutional review boards can provide guidance on students' designs and approve students' implementation of ethical research practices. Additional resources for training external expert advisers on the assessment tasks and timeline for the AP Research course will be provided to teachers during the mandatory professional development.

A designated staff member may also coordinate a pool of expert advisers for the AP Research course and assist in matching students with outside experts. AP Research teachers and school administrators should identify school and district policies pertaining to students engaging virtually or face-to-face with external expert advisers and communicate such policies to parents, students, and potential expert advisers.

Institutional Review Board (IRB)

Research proposals involving human subjects must be reviewed and approved by an institutional review board (IRB) before experimentation begins. According to federal regulations (45-CFR-46), the IRB must evaluate the potential physical and/or psychological risk of research involving humans. This includes review of any surveys or questionnaires to be used in a project. Federal regulations require local community involvement. Therefore, it is advisable that an IRB be established at the school level to evaluate human research projects.

An IRB must

- ▶ consist of a minimum of three members;
- ▶ include an educator;
- ▶ include a school administrator (preferably principal or vice principal); and
- ▶ include an individual who is knowledgeable about and capable of evaluating the physical and/or psychological risk involved in a given study. *This may be a medical doctor, physician's assistant, registered nurse, psychologist, licensed clinical social worker, or licensed clinical professional counselor.*

Many communities have IRBs in local organizations such as high schools, community colleges, universities, and medical centers. Many school districts have local science and engineering fair review committees, which, if necessary, can serve as IRBs as long as they have the required membership.

Additional guidance for the purpose and establishment of IRBs can be found at <http://www.hhs.gov/ohrp/assurances/irb/>.

Participating in External Research Presentations and Competition Platforms

Teachers should identify which students desire to submit and present their scholarly work to high school academic competitions (e.g., INTEL Science Talent Search, Siemens Westinghouse Competition, Tellus Poetry Competition). Teachers should apprise students of individual competition rules and proposal submission deadlines to ensure students know how to translate their work to fit the rules and meet the timelines for such competitions.

For more information on high school competitions for scholars, see the following websites:

http://www.duketipeog.com/home/academic_activities

http://www.sciencebuddies.org/science-fair-projects/top_science-fair_overview.shtml

<http://teacher.scholastic.com/writeit/fiction/publish/competition.htm>

Preparing the Process and Reflection Portfolio (PREP)

The primary purpose of the process and reflection portfolio (PREP) is to document students' development as they investigate their research questions, thereby providing evidence that students have demonstrated a sustained effort during the entire inquiry process. This portfolio should be reviewed throughout the year as a formative assessment component of the course and should be maintained by the student as evidence of participating in research to show to academic counselors, college admission officers, and faculty members.

Throughout the inquiry process, students will document their research or artistic processes, communication with their expert advisers, and reflections on their thought processes. Students should also examine their strengths and weaknesses with regard to implementing such processes and developing their arguments or aesthetic rationales. Through the professional development experience, teachers will be provided with a list of optional questions and tasks to help them guide students through the inquiry process. Teachers should select at least 15–20 questions that can assist students in the early months of the academic year as they begin the inquiry process and throughout the year as they examine, and reexamine, their chosen areas of study and the process by which they engage in research. Teachers can also design their own questions and tasks.

The combined group of questions and tasks in the PREP document should address all five big ideas in the curriculum framework (QUEST), with specific attention paid to the following:

- › Choice of the research question and interest in the subject matter
- › Research process, including resources (documents, people, multimedia); analysis of evidence; directions in which the inquiry or project seems to lead; changes to initial assumptions
- › Ways in which students have worked both on their own and as part of a larger community
- › Challenges and solutions

Teachers should engage students in individual discussions or interviews to help them reflect on and document their work, organize their time, and reach appropriate milestones. Teachers should also use these discussions as opportunities to formatively assess students' progress. The PREP should be used to inform regular progress reviews throughout the year. Teacher and student preference can determine the format of the portfolio (electronic or hard copy).

In addition to responses to questions and tasks provided by teachers, the final form of the PREP should include:

- ▶ Table of contents
- ▶ Completed and approved proposal form

- ▶ Specific pieces of work selected by the student to represent what he or she considers to be the best showcase for his or her work. Examples might include:
 - › In-class (teacher-directed) freewriting about the inquiry process
 - › Resource list
 - › Annotated bibliography of any source important to the student's work
 - › Photographs, charts, spreadsheets, and/or links to videos or other relevant visual research/project artifacts
 - › Draft versions of selected sections of the academic paper
 - › Notes in preparation for presentation and oral defense
- ▶ Documentation of permission(s) received from primary sources, if required — for example, permission(s) from an IRB or other agreements with individuals, institutions, or organizations that provide primary and private data such as interviews, surveys, or investigations
- ▶ Documentation or log of the student's interaction with expert adviser(s) and the role the expert adviser(s) played in the student's learning and inquiry process (e.g., What areas of expertise did the expert adviser have that the student needed to draw from? Did the student get the help he or she needed — and if not, what did he or she do to ensure that the research process was successful? Which avenues of exploration did the expert adviser help the student to discover?)
- ▶ Questions asked to and feedback received from peer and adult reviewers both in the initial stages and at key points along the way
- ▶ Reflection on whether or not the feedback was accepted or rejected and why
- ▶ Attestation signed by the student which states, "I hereby affirm that the work contained in this Process and Reflection Portfolio is my own and that I have read and understand the AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information"

AP Research Assessment Overview

Students are assessed with one through-course performance task consisting of two distinct components. Both components will be included in the calculation of students' final AP scores.

- ▶ **Academic Paper — 75%**
- ▶ **Presentation and Oral Defense — 25%**

AP Research Through-Course Performance Task

Weight: 100% of the AP Research Score

Recommended Completion Date for Both Components: April 15

Submission Deadline: April 30

Note: Teachers must carefully plan a calendar that provides time for the task to be completed, scored, and uploaded by April 30.

Teachers must upload and submit the following by April 30:

- ▶ Internal Score Report for the following components:
 - › Academic Paper (AP)
 - › Presentation and Oral Defense (POD)

Retention of Performance Task Presentation and Oral Defense Videos

AP Research teachers are required to keep video files of all performance task presentations and oral defenses for a minimum of one academic year because the College Board may request to review the scoring for these components to identify samples for scoring training and to ensure scoring quality.

Task Overview

Students design, plan, and implement a yearlong, in-depth study or investigation in an area of personal interest through a chosen or designed inquiry method and develop a well-reasoned argument based on the evidence collected in an academic paper of 4,000–5,000 words. As a culmination of their research, students deliver (using appropriate media) a presentation and orally defend their research design, approach, and findings. Students whose academic paper is accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product) must arrange for the teacher and panelists to view this work prior to the presentation and oral defense. Throughout the inquiry process, students communicate regularly with their teacher and, when appropriate, consult with an internal or external expert.

Components

The following components are formally assessed:

Component	Scoring Method	Weight
Academic Paper (AP) 4,000–5,000 words	Teacher scored, College Board validated	75%
Presentation and Oral Defense (POD) (15–20 minutes total for presentation followed by three or four questions from a panel of three evaluators).	Teacher scored	25%

Task Guidelines

Students develop a research question/project goal on a topic of their own choosing in an area of personal interest. They submit an inquiry proposal (see Inquiry Proposal Form, p. 55) for the teacher’s approval, and teachers provide feedback that helps students refine their research questions/project goals. Once the inquiry proposal is approved, students begin their background research (i.e., review of previous scholarship) on their topic.

With assistance from the teacher, students may identify one or more expert adviser(s) — internal or external to the school — to serve as an additional resource. The expert advisers should be experts in the chosen discipline or field that the student is investigating or in the research method that the student chooses to employ.

Under the teacher’s guidance — and using the expert advisers’ expertise as needed — students design or choose a method to collect data and information and then analyze, evaluate, and select relevant and credible evidence to develop a logical, well-reasoned argument or aesthetic rationale that results in an academic paper of 4,000–5,000 words. The argument or aesthetic rationale must directly address the research question/project goal. If the academic paper is accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product), this work is not formally assessed but is viewed by the teacher and panelists to contextualize the student’s research.

Academic Paper (AP)

The academic paper must contain the elements listed in the following table. These elements should be presented in a style and structure appropriate to the discipline in which the topic resides (e.g., psychology, science, music).

Required Element	Description
Introduction	<p>Provides background and contextualizes the research question/project goal and initial student assumptions and/or hypotheses.</p> <p>Introduces and reviews previous work in the field, synthesizing information and a range of perspectives related to the research question/project goal.</p> <p>Identifies the gap in the current field of knowledge to be addressed.</p>
Method, Process, or Approach	Explains and provides justification for the chosen method, process, or approach.
Results, Product, or Findings	Presents the findings, evidence, results, or product.
Discussion, Analysis, and/or Evaluation	<p>Interprets the significance of the results, product, or findings; explores connections to original research question/project goal.</p> <p>Discusses the implications and limitations of the research or creative work.</p>
Conclusion and Future Directions	<p>Reflects on the process and how this project could impact the field.</p> <p>Discusses possible next steps.</p>
Bibliography	Provides a complete list of sources cited and consulted in the appropriate disciplinary style.

The nature of students' inquiries is open-ended in that students' approaches to their investigations and the type of research they conduct may vary widely. However, every student is expected to produce a paper that addresses his or her inquiry, and all papers will be subject to the same standards of college-level work that demand research conducted at a deep, rigorous level.

Students must avoid plagiarism by acknowledging, attributing, and/or citing sources throughout the paper and by including a bibliography. Students must also observe ethical practices when gathering information through such vehicles as interviews or discussions, and be prepared to sign agreements with individuals, institutions, or organizations that provide primary and private data. Students should also be prepared to obtain institutional review board (IRB) approval prior to engaging in research involving human subjects. Graphs, data tables, images, appendices, abstract, and the bibliography are not part of the total word count for the academic paper.

Presentation and Oral Defense (POD)

All students will develop a 15–20 minute presentation (using appropriate media) and deliver it to an oral defense panel of three evaluators.

The presentation provides an opportunity for students to present the research question/project goal, method/process, and conclusions — similar to what a university student would do at the undergraduate level. The presentation should focus on the student's initial assumptions and hypotheses/ideas, the research question/project goal decided upon, and how the information collected to address the question supports his or her scholarly work. It should also address different perspectives and how those perspectives relate to the student's own findings and conclusions. Students explain and distill their argument(s), explain the rationales for their choices, and describe their research findings in order to communicate effectively to an audience of nonexperts. Students may choose any appropriate format for their presentation as long as the presentation reflects the depth of their research.

Students whose academic paper is accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product) must arrange for the teacher and panelists to view this work prior to the presentation and oral defense.

After the presentation, each student defends his or her argument/aesthetic rationale or design choices, inquiry process, use of evidence or discipline-specific information, analysis, evaluation, and conclusions through oral responses to three or four questions posed by the oral defense panel. Three of these questions must be chosen from the oral defense question list, which is provided to students in advance. The presentation and oral defense should take no longer than 15–20 minutes total.

The panel should ask one question pertaining to the student's research or inquiry process, one question focused on the student's depth of understanding, and one question about the student's reflection throughout the inquiry process as evidenced in his or her process and reflection portfolio (PREP). The fourth question and any follow-up questions are at the discretion of the panel. Students' responses to each question should be brief and concise (no more than a few minutes).

The panel should consist of the AP Research teacher and two additional, adult panel members (preferably expert advisers or discipline-specific experts), chosen by the AP Research teacher.

Teachers should offer students presentation guidelines including best practices for delivering information (e.g., vocal and movement techniques, use of multimedia or visual aids). It is strongly suggested that students be given opportunities to practice in front of their peers to gather feedback and learn how to respond succinctly to questions and critiques. Such practice is important to assist students in preparing for their presentations and oral defense.

Role of Teacher

Teachers of the AP Research course manage the AP Research assessment components and all related processes. Teachers should be transparent with students about the role of the teacher and other expert advisers in this course and what individuals providing guidance to students should and should not do.

Teachers

- ▶ must provide any necessary assistance to students in finding external expert advisers (experts in the field or discipline)

- ▶ must ensure students, expert advisers, and panel members are aware of the timeline, assessment task components, and scoring criteria
- ▶ must hold regular, individual work-in-progress interviews with students to ask questions, discuss, and provide feedback and guidance about the progress of their work, the effectiveness of their work with expert advisers, and any issues or challenges that arise
- ▶ must coordinate peer-to-peer feedback opportunities and provide effective guidelines and rubrics for peer- and self-evaluation
- ▶ may provide necessary background for a topic — including suggesting possible resources — so that students are not disadvantaged in their exploration
- ▶ may help students with the mechanics of the research process (e.g., strategizing to find answers to questions or helping them understand how to access resources)
- ▶ may provide general feedback to students about elements of their papers or presentations that need improvement

Teachers may not

- ▶ assign, provide, distribute, or generate research questions/project goals for students
- ▶ conduct research for students
- ▶ write, revise, amend, or correct student work
- ▶ identify the exact questions a student will be asked prior to his or her defense (i.e., students should be prepared to answer every one of the oral defense questions)
- ▶ provide unsolicited help (i.e., students must initiate conversations that call for teacher feedback, such as asking a question to which a teacher can then respond)

Role of Expert Advisers

Expert advisers represent a resource for teachers and students in a variety of areas (i.e., expertise in specific disciplines, fields, or methods).

Expert advisers

- ▶ when asked, should ask questions and provide feedback and guidance to students regarding their choice of research questions/project goals, data- or information-collection methods, and analysis strategies
- ▶ may hold individual work-in-progress interviews with students to discuss the progress of their papers or presentations, explore issues and/or discuss topics and perspectives, and question students as necessary
- ▶ may provide necessary background for a topic — including suggesting possible resources — so that students are not disadvantaged in their exploration
- ▶ may help students with the mechanics of the research process (e.g., strategizing to find answers to questions or helping them understand how to access resources)
- ▶ may provide general feedback to students about elements of their papers or presentations that need improvement
- ▶ may vary in number, according to the needs of the paper or presentation

Expert advisers may not

- ▶ generate research questions/project goals for students
- ▶ conduct or provide research, articles, or evidence for students
- ▶ write, revise, amend, or correct student work
- ▶ provide or identify the exact questions a student will be asked prior to his or her defense (i.e., students should be prepared to answer every one of the oral defense questions)
- ▶ provide unsolicited help (i.e., students must initiate conversations that call for expert adviser feedback, such as asking a question to which the expert adviser can then respond)

Expert advisers may be drawn from

- ▶ the faculty
- ▶ the community
- ▶ local or nonlocal businesses and industries
- ▶ higher education institutions

Instructions for the Oral Defense

Following the presentation, the teacher and the other trained panelists should ask three or four questions of the student. This evaluative component is designed to assess a student's response to the inquiry process and understanding of the topic explored in his or her research.

Questions may be tailored to a student's specific project.

The panel should ask one question pertaining to the student's research or inquiry process, one question focused on the student's depth of understanding, and one question about the student's reflection throughout the inquiry process as evidenced in his or her process and reflection portfolio (PREP). Panelists should ask these questions for the purpose of providing students with the opportunity to defend their conclusions and inquiry processes and offer reflection on the recursive nature of research. The first three questions should be selected from the list below (one from each category). The fourth question and any follow-up questions are at the discretion of the panel. Follow-up questions are intended to allow students the opportunity to fully explain and clarify their answers.

Oral Defense Questions

Research/Inquiry Process

- ▶ After you chose your research question/project goal, which information guided your choice of a research method/artistic process?
- ▶ How is the method/process you chose aligned with the purpose of your research? Which methods did you consider and reject?
- ▶ What were the strategies you used to conduct a review of the literature or gather information from the discipline-specific field? Why did you select those strategies? Which strategies did you consider and reject?

- ▶ How did you evaluate the sources you collected to make sure they would be credible, valid, and reliable? Which sources did you discard, and why?
- ▶ What was one obstacle or challenge you encountered while implementing your research method, and how did you address it?
- ▶ What was the most important source of information you found while conducting your research, and why was it important to your research process?

Depth of Understanding

- ▶ What was the fundamental argument/idea in your research? How does this argument/idea relate to the primary purpose of your research?
- ▶ Which of the various perspectives you explored was the most difficult for you to incorporate into your research inquiry, and why?
- ▶ What criteria did you use to discriminate among the perspectives in order to reach a conclusion?
- ▶ How might your conclusions/findings/product relate(s) to the current body of work in the community or field?
- ▶ What might be the real-world implications or consequences (influence on others' behaviors, decision-making processes, or discoveries) related to your findings?
- ▶ What additional questions emerged during your research? Based on your recent experience, what advice would you give to other researchers who might choose to investigate those questions?

Reflection Throughout the Inquiry Process

- ▶ Which of your sources was the most influential, and in what way is that influence apparent in your final conclusion or result?
- ▶ In which specific part of your research process was your expert adviser most helpful, and how was he or she most helpful? What did you learn from the expert adviser about your field of research? Note: do not ask this question if the student did not engage with an expert adviser.
- ▶ If you could revisit the research process, what would you do differently? Would you choose a different area of inquiry, and if so, why? If you would choose the same research question/project goal, what different methods or approaches would you use?
- ▶ If you had three more months to work on this research question/project goal, what additional research strategies would you put into practice?
- ▶ Think about the initial curiosity that led to your inquiry. What other areas of inquiry might that same curiosity lead to?
- ▶ What unanticipated turn did you encounter as your research progressed? What were the reasons for this change in direction or focus, and how did you modify your method or approach?

Reproducibles for Students

The following seven pages contain reproducible versions of the inquiry proposal form, performance task description, and advising tips for AP Capstone.

Inquiry Proposal Form

1. **Research question (with associated project goals if applicable). Include revised question, if needed.**
2. **Reasons for choosing the topic of interest and research question/project goal.**
3. **Data or information that will have to be collected to answer the research question/address the project goal.**
4. **Brief list of possible sources of information to discuss during the introduction of the paper.**
5. **Chosen or developed research method to collect and analyze the above data/information.**
6. **Equipment or resources needed to collect data or information.**
7. **Anticipated challenges to implementing the chosen research method (to collect and analyze data or to pursuing research methods appropriate to a paper that supports a performance/exhibit/product).**
8. **Expected approvals needed and from where (IRB, etc.).**
9. **Teacher's feedback.**
10. **Teacher's Approval (signature): _____**

AP Research Performance Task: Academic Paper and Presentation and Oral Defense

Task Overview

In AP Research, you will further the skills you acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information as you address a research question/project goal. You will conduct research and implement a developed or chosen inquiry methodology to design, plan, and conduct an in-depth study or investigation of an area of your own interest, culminating in a paper of 4,000–5,000 words that includes the following elements:

- ▶ Introduction
- ▶ Method, Process, or Approach
- ▶ Results, Product, or Findings
- ▶ Discussion, Analysis, and/or Evaluation
- ▶ Conclusion and Future Directions
- ▶ Bibliography

Throughout the course, you will document and reflect upon the research process and your communication with your teacher and any outside expert adviser(s) using a process and reflection portfolio (PREP).

In addition to completing your research paper, you will:

- ▶ arrange for a viewing of additional scholarly work (where applicable)
- ▶ deliver a presentation (using appropriate media)
- ▶ defend your research design, approach, and findings

Task Directions

1. Question, Proposal, and Research

- ▶ Identify a research question/project goal of your own choosing in an area of personal interest.
- ▶ Gather initial information for background and context on your research question/project goal and area of personal interest.
- ▶ Choose or design a research method and identify resources to develop your research proposal.
- ▶ Submit a proposal form to receive approval prior to starting your inquiry.
- ▶ Gather additional information, data, and evidence through a carefully chosen and aligned research method.
- ▶ Describe what you hope to learn, achieve, and/or create as a result of your inquiry.

(continues)

- ▶ With your teacher's assistance, connect with one or more discipline-specific expert advisers (internal or external to the school) to advise you through the development of your inquiry processes (if your inquiry warrants the use of a field expert or discipline-specific expert adviser).
- ▶ Maintain a portfolio of your inquiry processes, your communication with your teacher and expert adviser(s), and reflections on your thought processes and any successes and challenges you encounter.

2. Academic Paper

- ▶ Analyze, evaluate, and select evidence to develop a logical, well-reasoned argument or aesthetic rationale and conclusion in an academic paper of 4,000–5,000 words that addresses the research question/project goal and conveys your perspective and new understanding as a result of engaging in your research process.
- ▶ You must avoid plagiarism by acknowledging, attributing, and/or citing sources throughout the paper and by including a bibliography. Graphs, data tables, images, appendices, abstract, and the bibliography are not part of the total word count for the academic paper.

Your academic paper must contain the required elements described in the table below and should be presented in a style and structure appropriate to the discipline in which your research topic resides.

Required Element	Description
Introduction	Provides background and contextualizes the research question/project goal and your initial assumptions and/or hypotheses. Introduces and reviews previous work in the field, synthesizing information and a range of perspectives related to the research question/project goal. Identifies the gap in the current field of knowledge to be addressed.
Method, Process, or Approach	Explains and provides justification for the chosen method, process, or approach.
Results, Product, or Findings	Presents the findings, evidence, results, or product.
Discussion, Analysis, and/or Evaluation	Interprets the significance of the results, product, or findings; explores connections to original research question/project goal. Discusses the implications and limitations of the research or creative work.
Conclusion and Future Directions	Reflects on the process and how this project could impact the field. Discusses possible next steps.
Bibliography	Provides a complete list of sources cited and consulted in the appropriate disciplinary style.

(continues)

3. Presentation and Oral Defense

- ▶ Develop a 15–20 minute presentation (using appropriate media) and deliver it to an oral defense panel. If your academic paper is accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product), you will arrange for the teacher and panelists to view this work prior to the presentation. In your presentation, you should:
 - › showcase your research question/project goal, method, and conclusions
 - › focus on the evidence or data collected to address your research question/project goal
 - › illustrate the connections between the evidence you chose to support or refute your initial assumptions/hypotheses and the development of your overall conclusion or argument
 - › engage your audience using appropriate strategies (e.g., eye contact, vocal variety, emphatic gestures, movement)
 - › use a medium and design specifically tailored to engage your audience and illustrate your points. Please note, your audience (oral defense panel) may consist of both experts and non-experts.
- ▶ Following your presentation, you will defend your research/artistic processes; argument/aesthetic rationale; use of evidence or discipline-specific information; analysis; evaluation; and conclusions, solutions, or recommendations through oral responses to three or four questions asked by the oral defense panelists. Three of these questions will be chosen from the oral defense question list, which will be provided to you in advance. The presentation and oral defense should take no longer than 15–20 minutes total.

Oral Defense Questions

The panel will ask one question pertaining to your research or inquiry process, one question focused on your depth of understanding, and one question about your reflection throughout the inquiry process as evidenced in your process and reflection portfolio (PREP). The fourth question and any follow-up questions are at the discretion of the panel. Your responses to each question should be brief and concise (no more than a few minutes).

Research/Inquiry Process

- ▶ After you chose your research question/project goal, which information guided your choice of a research method/artistic process?
- ▶ How is the method/process you chose aligned with the purpose of your research? Which methods did you consider and reject?
- ▶ What were the strategies you used to conduct a review of the literature or gather information from the discipline-specific field? Why did you select those strategies? Which strategies did you consider and reject?
- ▶ How did you evaluate the sources you collected to make sure they would be credible, valid, and reliable? Which sources did you discard, and why?
- ▶ What was one obstacle or challenge you encountered while implementing your research method, and how did you address it?
- ▶ What was the most important source of information you found while conducting your research, and why was it important to your research process?

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Depth of Understanding

- ▶ What was the fundamental argument/idea in your research? How does this argument/idea relate to the primary purpose of your research?
- ▶ Which of the various perspectives you explored was the most difficult for you to incorporate into your research inquiry, and why?
- ▶ What criteria did you use to discriminate among the perspectives in order to reach a conclusion?
- ▶ How might your conclusions/findings/product relate(s) to the current body of work in the community or field?
- ▶ What might be the real-world implications or consequences (influence on others' behaviors, decision-making processes, or discoveries) related to your findings?
- ▶ What additional questions emerged during your research? Based on your recent experience, what advice would you give to other researchers who might choose to investigate those questions?

Reflection Throughout the Inquiry Process

- ▶ Which of your sources was the most influential, and in what way is that influence apparent in your final conclusion or result?
- ▶ In which specific part of your research process was your expert adviser most helpful, and how was he or she most helpful? What did you learn from the expert adviser about your field of research? Note: do not ask this question if the student did not engage with an expert adviser.
- ▶ If you could revisit the research process, what would you do differently? Would you choose a different area of inquiry, and if so, why? If you would choose the same research question/project goal, what different methods or approaches would you use?
- ▶ If you had three more months to work on this research question/project goal, what additional research strategies would you put into practice?
- ▶ Think about the initial curiosity that led to your inquiry. What other areas of inquiry might that same curiosity lead to?
- ▶ What unanticipated turn did you encounter as your research progressed? What were the reasons for this change in direction or focus, and how did you modify your method or approach?

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A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

AP Capstone Tips for Students

1. Be prepared to perform your best on AP Exams! Your academic performance provides evidence of your academic achievements as a result of hard work in AP.
2. Send your AP Exam scores! During AP Exam registration, be sure to indicate the code for the colleges you want to receive your scores. This alerts them of your interest as a potential applicant and invites college recruiters to reach out to you to learn more about your AP Capstone experience and future research interests. The volume of AP scores received by postsecondary campuses helps drive support for credit and placement policies.
3. Indicate your participation in AP Capstone and your future research interests in college applications. It might prompt further consideration of your application and may even yield a scholarship possibility.
4. Be prepared to succinctly describe your AP Capstone experience and give a summary of your research and findings. This brief conceptual summary will help you advocate for college credit/placement and allow you to capture the attention of colleges offering undergraduate research opportunities that you may want to explore.
5. Check the AP Capstone website for more information about the colleges and universities that support the AP Capstone program and offer credit/placement for qualifying scores in AP Seminar and AP Research.

AP Research Glossary

alignment — Cohesion between the focus of an inquiry, the method of collecting information, the process of analysis of the information, and the conclusions made to increase understanding of that focus

argument — A claim or thesis that conveys a perspective developed through a line of reasoning and supported by evidence

assumption — A belief regarded as true and often unstated

author — One who creates a work (e.g., article; research study; foundational, literary, or philosophical text; speech, broadcast, or personal account; artistic work or performance) that conveys a perspective and can be examined

bias — A personal opinion, belief, or value that may influence one's judgment, perspective, or claim

claim — A statement made about an issue that asserts a perspective

coding — A method for reducing data sets into categories or numbers for the purpose of analyzing emerging themes, patterns, or trends

commentary — Discussion and analysis of evidence in relation to the claim that may identify patterns, describe trends, and/or explain relationships

complex issue — Issue involving many facets or perspectives that must be understood in order to address it

concession — Acknowledgment and acceptance of an opposing or different view

conclusion — Understanding resulting from analysis of evidence

context — The intent, audience, purpose, bias, situatedness, and/or background (larger environment) of a source or reference

conventions — The stylistic features of writing (e.g., grammar, usage, mechanics)

counterargument — An opposing perspective, idea, or theory supported by evidence

credibility — The degree to which a source is believable and trustworthy

cross-curricular — Goes beyond the traditional boundary of a single content area or discipline

deductive — A type of reasoning that constructs general propositions that are supported with evidence or cases

evidence — Information (e.g., data, quotations, excerpts from texts) used as proof to support a claim or thesis

fallacy — Evidence or reasoning that is false or in error

feasible — Able to be accomplished within the time, resources, and processes available

implication — A possible future effect or result

inductive — A type of reasoning that presents cases or evidence that lead to a logical conclusion

inquiry — A process for seeking truth, information, or knowledge through a study, research investigation, or artistic endeavor/work

interdisciplinary — Involving two or more areas of knowledge

lens — Filter through which an issue or topic is considered or examined

limitation — A boundary or point at which an argument or generalization is no longer valid

line of reasoning — Arrangement of claims and evidence that leads to a conclusion

literature — The foundational and current texts of a field or discipline of study

material culture — Physical objects, resources, and spaces that people use to define their culture

perspective — A point of view conveyed through an argument

plagiarism — Failure to acknowledge, attribute, and/or cite any ideas or evidence taken from another source

point of view — A position or standpoint on a topic or issue

primary research — The planning and implementation of an inquiry to gather firsthand data or information pertaining to a topic of interest

primary source — An original source of information about a topic (e.g., study, artifact, data set, interview, article)

qualification — A condition or exception

qualitative — Having to do with text, narrative, or descriptions

quantitative — Having to do with numbers, amounts, or quantities

rebuttal — Contradicting an opposing perspective by providing alternate, more convincing evidence

refutation — Disproving an opposing perspective by providing counterclaims or counterevidence

reliability — The extent to which something can be trusted to be accurate

resolution — The act of solving a problem or dispute

secondary research — The process of gathering data or information about a topic of interest from previously published sources

secondary source — A commentary about one or more primary sources that provides additional insight, opinions, and/or interpretation about the primary source data, study, or artifacts

solution — A means of answering a question or addressing a problem or issue

text — Something composed (e.g., articles; research studies; foundational, literary, and philosophical texts; speeches, broadcasts, and personal accounts; artistic works and performances) that conveys a perspective and can be examined

thesis — A claim or position on an issue or topic put forward and supported by evidence

tone — The way in which an author expresses an attitude about his or her topic or subject through rhetorical choices

triangulation — Implementing more than one research method and/or gathering more than one type of data set to strengthen the depth of understanding and validity of the findings pertaining to a phenomenon or observation

validity (argument) — The extent to which an argument or claim is logical

validity (research) — The extent to which conclusions of an inquiry accurately address the variables to be measured or align with the authenticity of the observations made

vocal variety — Changing vocal characteristics (e.g., pitch, volume, speed) in order to emphasize ideas, convey emotion or opinion, or achieve other specific purposes

workshopping — Presenting scholarly works to peers for feedback to inform or guide revisions

About the Appendixes

The following pages include useful information and references for students, parents, educators, expert advisers, and colleges:

▶ **Appendix A: AP Research: QUEST Framework Essential Questions**

A quick-reference list of the overarching AP Research Curriculum Framework big ideas and the essential questions associated with each.

▶ **Appendix B: Important Dates for AP Research Teachers**

A timeline for teachers and school administrators showing key dates and activities to help inform decisions with school-wide implementation of the program.

▶ **Appendix C: AP Capstone Program Profile**

An informational document designed to be included with student transcripts being sent to colleges as part of a student's college application package. The document provides college admission staff with an overview of the AP Capstone program, brief course descriptions for AP Seminar and AP Research, and a summary of the credentials students can earn through program participation.

AP Research: QUEST Framework

Essential Questions



Question and Explore

Challenge and expand the boundaries of your current knowledge.

- ▶ What do I want to know, learn, or understand?
 - ▶ What questions have yet to be asked?
 - ▶ How does my research question shape how I go about trying to answer it?
 - ▶ How does my project goal shape the research or inquiry I engage in to achieve it?
 - ▶ What information/evidence do I need to answer my research question?
-



Understand and Analyze

Contextualize arguments and comprehend authors' claims.

- ▶ What strategies will help me comprehend a text?
 - ▶ What is the main idea of the argument or artistic work, and what reasoning does the author use to develop it?
 - ▶ What biases may the author have that influence his or her perspective?
 - ▶ Does this argument acknowledge other perspectives?
 - ▶ How can I assess the quality or strength of others' research, products, or artistic works?
-



Evaluate Multiple Perspectives

Consider individual perspectives and the larger conversation of varied points of view.

- ▶ How might others see a problem or issue differently?
 - ▶ What patterns or trends can be identified among the arguments about this issue?
 - ▶ What are the implications and/or consequences of accepting or rejecting a particular argument?
 - ▶ How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?
 - ▶ How can I explain contradictions within or between arguments?
 - ▶ From whose perspective is this information being presented, and how does that affect my evaluation?
-



Synthesize Ideas

Combine knowledge, ideas, and your own perspective into an argument.

- ▶ How do I connect and analyze the evidence in order to develop an argument and support a conclusion?
 - ▶ Are there other conclusions I should consider?
 - ▶ How does my scholarly work emerge from my perspective, design choices, or aesthetic rationale?
 - ▶ How do I acknowledge and account for my own biases and assumptions?
 - ▶ What is the most appropriate way to acknowledge and attribute the work of others that was used to support my argument? How do I ensure the conclusions I present are my own?
-



Team, Transform, and Transmit

Collaborate, reflect, and communicate your argument in a method suited to your audience.

- ▶ How can I best appeal to and engage my audience?
 - ▶ What is the best medium or genre through which to reach my audience?
 - ▶ How might I adapt my written and oral presentations for different audiences and situations?
 - ▶ How might my communication choices affect my credibility with my audience?
 - ▶ Which revision strategies are most appropriate to developing and refining my project at different stages?
 - ▶ How do I provide feedback that is valuable to others? How do I act upon feedback I have received?
 - ▶ How can I benefit from reflecting on my own work?
-

Important Dates for AP Research Teachers

Date	Key Activity
August/September	AP Research instruction begins.
October 1	Deadline for teachers to complete the AP Course Audit form and submit course syllabus. Principals (or designated administrators) must approve Course Audit form prior to this date.
November	Authorized AP Research courses appear on the AP Course Ledger.
November 30	Teachers must approve student inquiry proposals by this date.
January/February	AP Research teachers complete online assessment training.
April 15–30	Students must submit all final AP Research performance tasks and those tasks must be scored by the AP Research teacher.
July	AP Research Score Reports released.
July/August	AP Research professional development sessions for new AP Research teachers.



AP Capstone™ is an innovative college-level diploma program from the College Board that introduces two new courses, AP® Seminar and AP Research, that complement and enhance discipline-specific AP courses.

Students in AP Capstone learn and refine skills that are at the core of postsecondary success. The program helps students think independently, write effectively, research, collaborate, and learn across disciplines — skills that are essential for success in college and in life.

AP® Seminar

AP Seminar is a foundational course that engages students in cross-curricular conversations. By analyzing divergent perspectives, students:

- ▶ Explore the complexities of academic and real-world topics
- ▶ Consume and analyze a range of texts, audio, broadcasts, and artistic works and performances
- ▶ Learn to synthesize information from multiple sources
- ▶ Develop perspectives in research-based essays and presentations, both individually and as a group

Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

Note: Some schools may choose to add a subtitle as part of the AP Seminar course. The subtitle indicates a special disciplinary focus or emphasis and may warrant consideration for credit or placement.

AP Research

AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. In the AP Research course, students learn to:

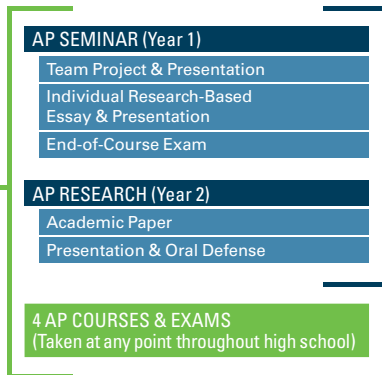
- ▶ Apply research methods
- ▶ Employ ethical practices
- ▶ Access, analyze, and synthesize information

The course culminates in an academic thesis paper of approximately 5,000 words and a presentation, performance, or exhibition with an oral defense.

AP Capstone Diploma and Certificate

AP Capstone Diploma™

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four (4) additional AP Exams of their choosing will receive the AP Capstone Diploma™. The AP Capstone Diploma signifies a student’s outstanding academic achievement and attainment of college-level academic and research skills.



AP Seminar and Research Certificate™

Students who earn scores of 3 or higher in AP Seminar and AP Research will receive the AP Seminar and Research Certificate™, signifying successful performance in those courses.

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AP[®] Research Course and Exam Description, Effective Fall 2017

AP Research is the second course in the two-year sequence of AP Capstone™—a program that allows students to explore real-world issues while developing the analytic, research, problem-solving, and communication skills that colleges look for in their applicants.

This course and exam description includes:

- AP Capstone Pedagogical Framework
- AP Research Curriculum Framework
- Reproducible forms and instructions for students

For more information about AP Capstone, visit www.collegeboard.org/apcapstone



Course and Exam Description

AP[®] Seminar

Part of the AP Capstone™ Program

Effective Fall 2016



IMPORTANT INFORMATION ABOUT AP SEMINAR:

In order to offer AP Seminar, schools must apply through the AP Program to participate and teachers must attend mandatory training.

See collegeboard.org/apcapstone for details.

Effective Fall 2016

AP[®] Seminar

Course and Exam Description
Part of the AP Capstone[™] Program

Revised Edition, Effective Fall 2016

About the College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT[®] and the Advanced Placement Program[®]. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools. For further information, visit www.collegeboard.org.

AP[®] Equity and Access Policy

The College Board strongly encourages educators to make equitable access a guiding principle for their AP[®] programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

Third Edition

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Preface

This version of the *AP Seminar Course and Exam Description*, effective beginning in fall 2016, includes changes that are the result of feedback and analysis following the first operational exam in 2015. There are no substantive changes to what students are required to learn in the course or the skills they are required to demonstrate in the assessment. The changes are focused on reducing the volume of the overall assessment. Specifically, in Performance Task 1, the reflection part of the Individual Research and Reflection will no longer be required as part of the assessment and the student teams will convey their arguments only through the Multimedia Presentation rather than submit a Written Team Report. The Task Directions for both Performance Tasks found on pages 47 and 52 have been updated to reflect these changes and clarify the requirements. In the End-of-Course Exam, Section IB has been removed, making the overall exam two hours long. For teachers who wish to learn more about the specific changes to the Course and Exam Description, full details can be found on the AP Seminar Teacher Community website: <https://apcommunity.collegeboard.org/web/apseminar/home>.

Acknowledgments

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About AP®

The College Board's Advanced Placement Program® (AP®) enables students to pursue college-level studies while still in high school. Through more than 30 courses, each culminating in a rigorous exam, AP provides willing and academically prepared students with the opportunity to earn college credit, advanced placement, or both. Taking AP courses also demonstrates to college admission officers that students have sought out the most rigorous course work available to them.

Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. Talented and dedicated AP teachers help AP students in classrooms around the world develop and apply the content knowledge and skills they will need later in college.

Each AP course concludes with a college-level assessment developed and scored by college and university faculty as well as experienced AP teachers. AP Exams are an essential part of the AP experience, enabling students to demonstrate their mastery of college-level course work. Most four-year colleges and universities in the United States and universities in more than 60 countries recognize AP in the admissions process and grant students credit, placement, or both on the basis of successful AP Exam scores. Visit www.collegeboard.org/ap/creditpolicy to view AP credit and placement policies at more than 1,000 colleges and universities.

Performing well on an AP Exam means more than just the successful completion of a course; it is a gateway to success in college. Research consistently shows that students who receive a score of 3 or higher on AP Exams typically experience greater academic success in college and have higher graduation rates than their non-AP peers¹. Additional AP studies are available at www.collegeboard.org/research.

¹See the following research studies for more details:

Linda Hargrove, Donn Godin, and Barbara Dodd, *College Outcomes Comparisons by AP and Non-AP High School Experiences* (New York: The College Board, 2008).

Chrys Dougherty, Lynn Mellor, and Shuling Jian, *The Relationship Between Advanced Placement and College Graduation* (Austin, Texas: National Center for Educational Accountability, 2006).

Offering AP Courses and Enrolling Students

Each AP course and exam description details the essential information required to understand the objectives and expectations of an AP course. The AP Program unequivocally supports the principle that each school implements its own curriculum that will enable students to develop the content knowledge and skills described here.

The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging course work before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved.

How AP Courses and Exams Are Developed

AP courses and exams are designed by committees of college faculty and expert AP teachers who ensure that each AP subject reflects and assesses college-level expectations. To find a list of each subject's current AP Development Committee members, please visit press.collegeboard.org/ap/committees. AP Development Committees define the scope and expectations of the course, articulating through a curriculum framework what students should know and be able to do upon completion of the AP course. Their work is informed by data collected from a range of colleges and universities to ensure that AP coursework reflects current scholarship and advances in the discipline.

The AP Development Committees are also responsible for drawing clear and well-articulated connections between the AP course and AP Exam — work that includes designing and approving exam specifications and exam questions. The AP Exam development process is a multiyear endeavor; all AP Exams undergo extensive review, revision, piloting, and analysis to ensure that questions are high quality and fair and that there is an appropriate spread of difficulty across the questions.

Throughout AP course and exam development, the College Board gathers feedback from various stakeholders in both secondary schools and higher education institutions. This feedback is carefully considered to ensure that AP courses and exams are able to provide students with a college-level learning experience and the opportunity to demonstrate their qualifications for advanced placement upon college entrance.

Using and Interpreting AP Scores

The extensive work done by college faculty and AP teachers in the development of the course and the exam and throughout the scoring process ensures that AP Exam scores accurately represent students' achievement in the equivalent college course. While colleges and universities are responsible for setting their own credit and placement policies, AP scores signify how qualified students are to receive college credit or placement:

AP Score	Recommendation
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly qualified
1	No recommendation

Additional Resources

Visit apcentral.collegeboard.org for more information about the AP Program.

About the AP Capstone™ Program

AP Capstone™ is an innovative diploma program from the College Board that equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. AP Capstone is built on the foundation of two AP® courses — **AP Seminar** and **AP Research** — and is designed to complement and enhance the in-depth, discipline-specific study experienced in other AP courses.

In AP Seminar, students investigate real-world issues from multiple perspectives, gathering and analyzing information from various sources in order to develop credible and valid evidence-based arguments. In AP Research, students cultivate the skills and discipline necessary to conduct independent research and inquiry in order to produce and defend their scholarly work.

The AP Capstone program aims to empower students by:

- ▶ engaging them with rigorous college-level curricula focused on the skills necessary for successful college completion;
- ▶ extending their abilities to synthesize information from multiple perspectives and apply skills in new situations and cross-curricular contexts;
- ▶ enabling them to collect and analyze information with accuracy and precision;
- ▶ cultivating their abilities to craft, communicate, and defend evidence-based arguments; and
- ▶ providing opportunities for them to practice disciplined and scholarly research skills while exploring relevant topics that appeal to their interests and curiosity.

Research Base

The big ideas and learning objectives in the AP Capstone program reflect the core academic skills needed for college, career, and life readiness identified by leading educational organizations and College Board membership, including the following:

- ▶ The American Association of Colleges and Universities (AAC&U), *College Learning for the New Global Century, Essential Learning Outcomes*
- ▶ Advanced Placement Program, skills and practices identified in AP courses
- ▶ The Partnership for 21st Century Skills (P21), *A Framework for 21st Century Learning*
- ▶ Association of College and Research Libraries, *Information Literacy Competency Standards for Higher Education*
- ▶ Council of Writing Program Administrators, *Framework for Success in Postsecondary Writing*

The AP Capstone Diploma™ and AP Seminar and Research Certificate™

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing will receive the AP Capstone Diploma™.

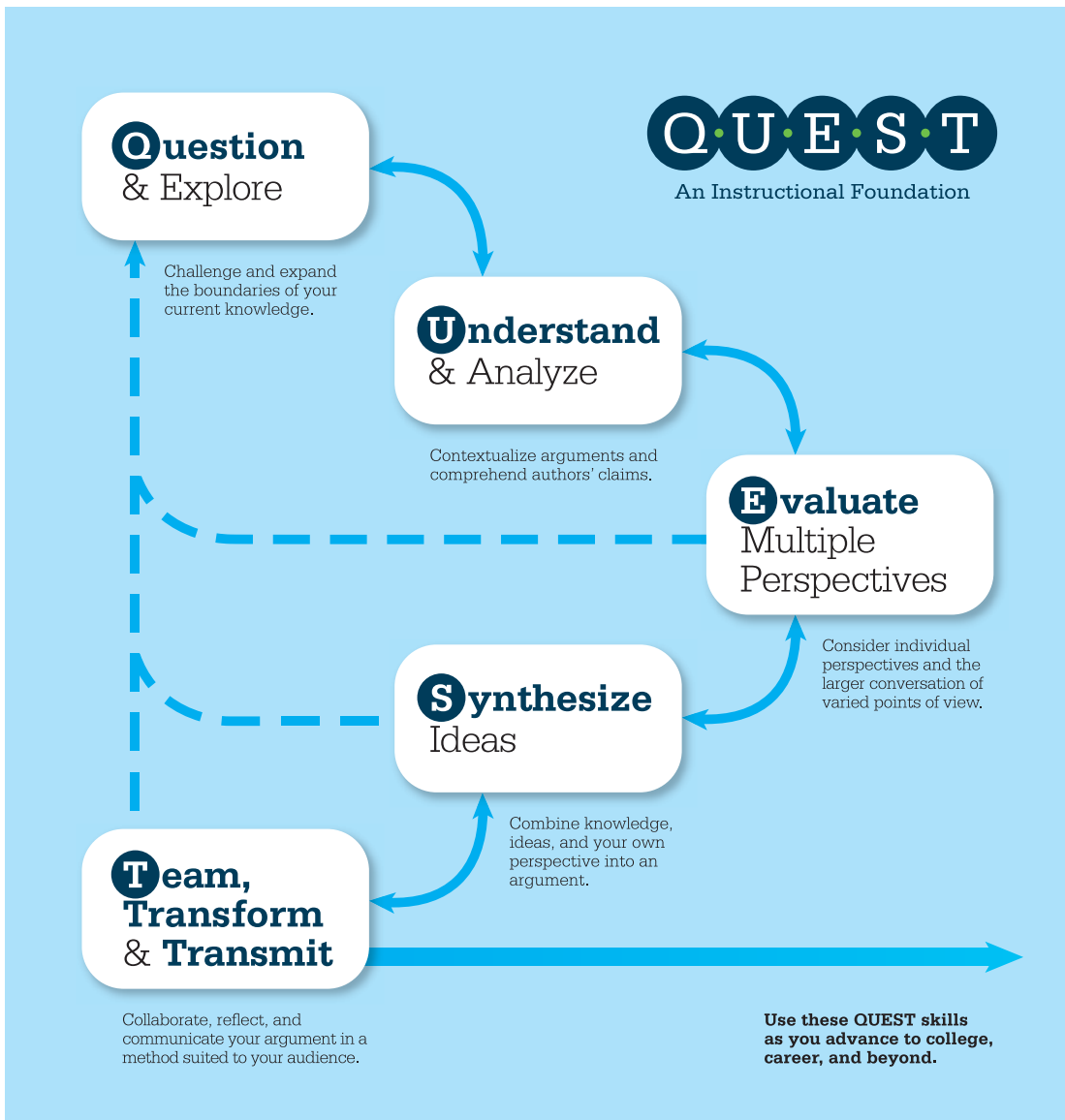
Students who earn scores of 3 or higher in AP Seminar and AP Research but not on four additional AP Exams will receive the AP Seminar and Research Certificate™.



AP Capstone Pedagogical Framework

Overview of the Pedagogical Framework

Throughout the program, students consider and evaluate multiple points of view to develop their own perspectives on complex issues and topics through inquiry and investigation. The AP Capstone program provides students with a framework that allows them to develop, practice, and hone their critical and creative thinking skills as they make connections between various issues and their own lives. Teachers should help students understand that this process is recursive, not linear. The recursive nature of this process allows students to go back and forth between the different stages of inquiry as they encounter new information.



AP Capstone Reasoning Processes

The AP Capstone program allows students to develop and practice reasoning processes that help them to make intentional, strategic decisions. It is important for teachers to understand these reasoning processes, which are embedded within the learning objectives:

- ▶ Situating – being aware of the context of one’s own as well as others’ perspectives, realizing that individual bias can lead to assumptions;
- ▶ Choosing – making intentional and purposeful choices, realizing that choices have both intended and unintended consequences;
- ▶ Defending – being able to explain and justify personal choices, logic, line of reasoning, and conclusions; and
- ▶ Connecting – seeing intersections within and/or across concepts, disciplines, and cultures.

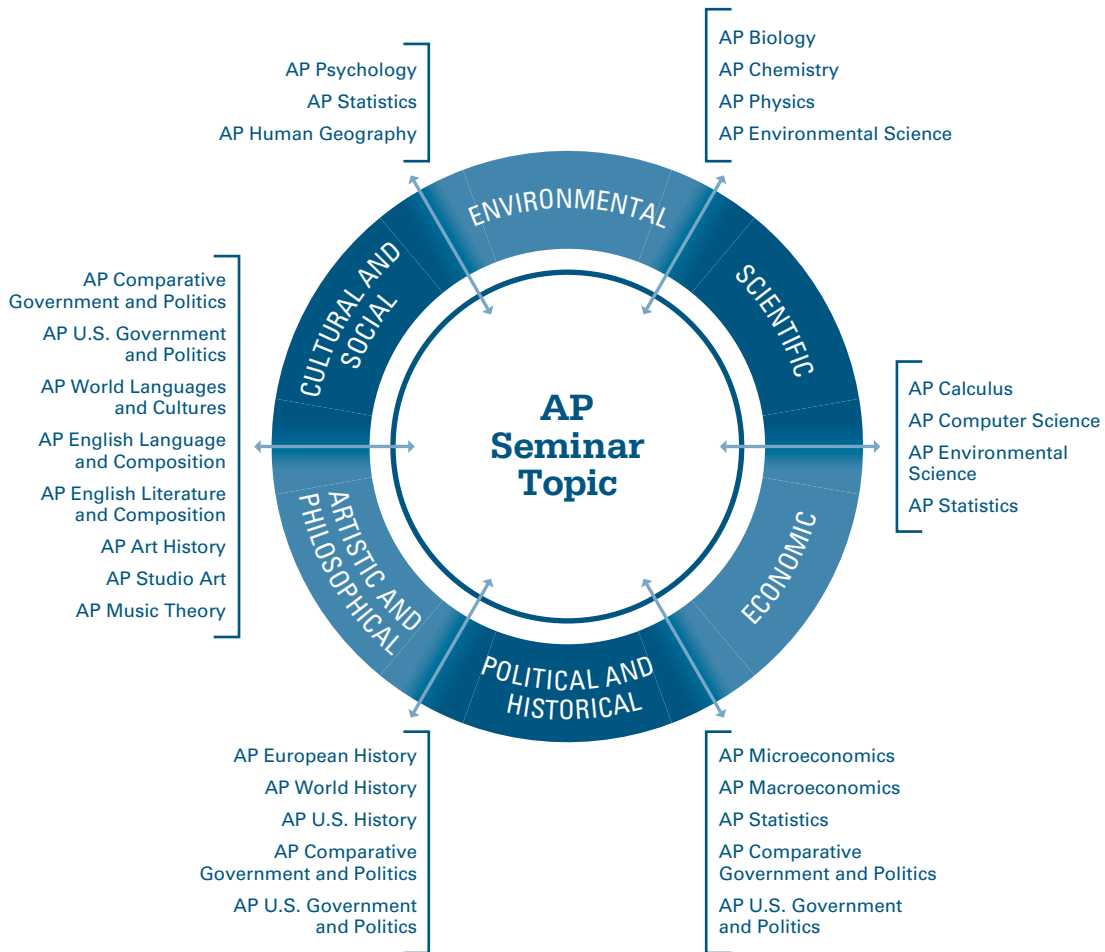
AP Seminar Course Transferable Skills and Proficiencies

The AP Capstone reasoning processes are also embedded in the AP Seminar course transferable skills and proficiencies. The transferable skills and proficiencies are high-level descriptions of the understanding, knowledge, and skills that students should be able to apply in novel situations long after completing the AP Seminar course.

Transferable Skills	Analyze Sources and Evidence	Construct an Evidence-Based Argument	Understand Context and Perspective	Communicate (interpersonal and intrapersonal)
Reasoning Processes	<i>Situate</i> <i>Choose</i>	<i>Choose</i> <i>Connect</i> <i>Defend</i>	<i>Situate</i> <i>Connect</i>	<i>Situate</i> <i>Choose</i> <i>Defend</i>
Proficiencies	<p>Understand and Analyze Argument Identifying the main idea in arguments, analyzing the reasoning, and evaluating the validity of the conclusions</p> <p>Evaluate Sources and Evidence Evaluating the credibility and relevance of sources and the evidence they present</p>	<p>Establish Argument Developing a well-reasoned argument clearly connecting the thesis, claims and evidence</p> <p>Select and Use Evidence Strategically choosing evidence to effectively support claims</p>	<p>Understand and Analyze Context Understanding the complexity of a problem or issue and connecting arguments to the broader context in which they are situated</p> <p>Understand and Analyze Perspective Comparing and interpreting multiple diverse perspectives on an issue to understand its complexity</p>	<p>Engage Audience Choosing and employing effective written and oral communication techniques, considering audience, context, and purpose</p> <p>Apply Conventions Choosing and consistently applying an appropriate citation style and effective conventions of writing</p> <p>Collaborate Working constructively with others to accomplish a team goal or task</p> <p>Reflect Articulating challenges, successes, and moments of insight that occur throughout the inquiry process</p>

Making Connections within AP

Some teachers may wish to make cross-curricular connections with other AP courses, although there is no specific requirement to do so. The graphic below illustrates possible cross-curricular connections. The AP Seminar course topics can be viewed through different disciplinary lenses which relate to courses in the AP Program. Two additional lenses, Ethical and Futuristic, are not shown in the diagram below but have potential links with many AP courses.



AP Seminar Course Description

AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

AP Seminar Curricular Requirements

The curricular requirements are the core elements of an AP course. The curriculum framework and supporting documents provided during professional development serve as resources to assist teachers in determining the appropriate level of evidence to include within their syllabi to meet or exceed the requirements. (All AP Seminar teachers must attend College Board AP Seminar intensive training prior to their first year of teaching the AP Seminar course.)

Evidence of the following curricular requirements should be included in the course syllabus developed by the teacher and submitted to the College Board for review and approval.

- ▶ Students explore the complexities of one or more themes by making connections within, between, and/or among multiple cross-curricular areas and by exploring multiple perspectives and lenses (e.g., cultural and social, artistic and philosophical, political and historical, environmental, economic, scientific, futuristic, ethical) related to those themes.
- ▶ Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas:
 - › Question and Explore
 - › Understand and Analyze
 - › Evaluate Multiple Perspectives
 - › Synthesize Ideas
 - › Team, Transform, and Transmit
- ▶ Students gain a rich appreciation and understanding of issues through the following activities:
 - › reading articles and research studies;
 - › reading foundational, literary, and philosophical texts;
 - › viewing and listening to speeches, broadcasts, and/or personal accounts;
 - › and experiencing artistic works and performances.
- ▶ Students develop an understanding of ethical research practices and the AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information.
- ▶ Students work collaboratively with a team to identify, investigate, analyze, and evaluate a real-world or academic problem or issue; consider and evaluate alternatives or options; propose one or more solutions or resolutions; and present and defend the argument for their solutions through a multimedia presentation.
- ▶ Students work independently to identify a research question based on provided stimulus material; research the issue; analyze, evaluate, and select evidence to develop an argument; present and defend a conclusion; and produce a multimedia presentation to be delivered to their peers.

AP Seminar Curriculum Framework

Overview of the Curriculum Framework

Based on the Understanding by Design (Wiggins and McTighe) model, this curriculum framework is intended to provide a clear and detailed description of the course requirements necessary for student success. This conceptualization will guide the development and organization of learning outcomes from general to specific, resulting in focused statements about content knowledge and skills needed for success in the course. The curriculum framework contains the following structural components:

- ▶ The course is organized around five **big ideas**. Tied to each big idea are several **essential questions**. These are open-ended questions that encourage students to think deeply about a topic, ask additional questions and investigate solutions, and develop the deeper conceptual understanding that the course seeks to foster.
- ▶ Within each big idea are several **enduring understandings**. These are the long-term takeaways related to the big ideas that a student should have after exploring the content and skills. These understandings are expressed as generalizations that specify what students will come to understand about the key concepts in the course. Enduring understandings are numbered to correspond to each big idea.
- ▶ Linked to each enduring understanding are the corresponding **learning objectives**. The learning objectives articulate what students need to be able to do in order to develop the enduring understandings. The learning objectives will become targets of assessment for the course. Learning objectives are numbered to correspond with the appropriate big ideas and enduring understandings.
- ▶ For each of the learning objectives, **essential knowledge** statements describe the facts and basic concepts that a student should know and be able to recall in order to demonstrate mastery of the learning objective. Essential knowledge components are numbered to correspond with the appropriate big ideas, enduring understandings, and learning objectives.

Big Idea 1: Question and Explore

Inquiry and investigation begin when students encounter information about complex issues and problems that stimulates their intellectual curiosity. They then continue the research process by developing a critical question about one or more of those complex issues or ideas. Seeking answers to such questions requires exploration of numerous, often competing perspectives; the context surrounding those perspectives; and the reliability and credibility of the perspectives. Through this exploration, students begin to develop their own perspectives, rather than simply accept those of others. They consider the purpose of their research — what is supposed to be achieved and why. Ideally, they also develop additional questions that lead to further inquiry. The intrinsic value of asking and answering questions cannot be overstated. Giving students the opportunity to dig deeper and feed their curiosity makes for meaningful discoveries and discussions.

Essential Questions

- ▶ How does the context of a problem or issue affect how it is interpreted or presented?
- ▶ How might others see the problem or issue differently?
- ▶ What questions have yet to be asked?
- ▶ What voices or perspectives are missing from my research?
- ▶ What do I want to know, learn, or understand?
- ▶ How does my research question shape how I go about trying to answer it?
- ▶ What information do I need to answer my question?
- ▶ What keywords should I use to search for information about this topic?

Enduring Understandings

(Students will understand that . . .)

EU 1.1: Personal interest and intellectual curiosity inspire investigation of topics or **issues** that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further **inquiry** can lead to unexpected **conclusions**, **resolutions**, innovations, or **solutions**.

Learning Objectives

(Students will be skilled at . . .)

LO 1.1A: Contextualizing and identifying the complexities of a problem or issue.

LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.

Essential Knowledge

(Students will know that . . .)

EK 1.1A1: Examining the **perspectives** and ideas of others often leads to questions for further investigation. Inquiry begins with narrowing scope of interest, identifying a problem or issue and its origins within that scope, and situating the problem or issue in a larger **context**.

EK 1.1B1: Effective research questions lead to an examination taking into account the complexity of a problem or issue.

EK 1.1B2: The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to **complex issues**.

Note: The first time words from the glossary are used in the curriculum framework tables, they appear in bold blue text. The full glossary begins on page 119.

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 1.2: Strengthening understanding of a concept or issue requires questioning existing ideas, using what is known to discover what is not known, and making connections to prior knowledge.</p>	<p>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.</p>	<p>EK 1.2A1: Understanding comes not only through collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, assumptions).</p> <p>EK 1.2A2: A variety of strategies (e.g., brainstorming, concept mapping, prewriting, exploration of space, drafting) can be used to illustrate, organize, and connect ideas.</p> <p>EK 1.2A3: Inquiry confirms or challenges one’s existing understandings, assumptions, beliefs, and/or knowledge.</p>
<p>EU 1.3: The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.</p>	<p>LO 1.3A: Accessing and managing information using effective strategies.</p>	<p>EK 1.3A1: Information used to address a problem may come from various secondary sources (e.g., articles, other studies, analyses, reports) and/or primary sources (e.g., original texts and works, material culture, or personally collected data such as from experiments, surveys, questionnaires, interviews, observations, personal narratives).</p> <p>EK 1.3A2: Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.</p> <p>EK 1.3A3: Advanced search tools, Boolean logic, and key words allow scholars to refine, focus, and/or limit their searches based on a variety of factors (e.g., date, peer-review status, type of publication).</p>
<p>EU 1.4: The relevance and credibility of the source of information is determined by the context of its use.</p>	<p>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.</p>	<p>EK 1.4A1: The scope and purpose of one’s research and the credibility of sources affects the generalizability and the reliability of the conclusions.</p> <p>EK 1.4A2: Credibility of evidence depends on use of sources and data that are relevant and reliable (current, authoritative).</p> <p>EK 1.4A3: Determining the credibility of a source requires considering and evaluating the reputation and credentials of the author, publisher, site owner, and/or sponsor; understanding and evaluating the author’s perspective and research methods; and considering how others respond to their work. Scholarly articles are often peer reviewed, meaning the research has been reviewed and accepted by disciplinary experts.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.	LO 1.5A: Identifying the information needed for the context of the inquiry.	EK 1.5A1: The way the problem is posed, situated, framed, or contextualized will guide the inquiry process and influence the type of information needed and the appropriate method of gathering it.

Big Idea 2: Understand and Analyze

Developing understanding starts with comprehension of the concepts and perspectives under examination. Being able to summarize by identifying and explaining the salient ideas in a text is foundational. When students summarize and explain an author’s perspective to others, they are building understanding. Students must comprehend a perspective or argument in order to be able to analyze it. That analysis — including consideration of the author’s point of view and purpose, the reasoning and details the author selects, develops, and conveys, and the way the author chooses to situate those details — in turn leads to greater understanding of the topic or concept being explored. Students evaluate the strength of an argument by examining the line of reasoning and the quality of the evidence the author uses. This level of understanding allows students to recognize the implications and predict the consequences of an argument.

Essential Questions

- ▶ What strategies will help me comprehend a text?
- ▶ What is the argument’s main idea and what reasoning does the author use to develop it?
- ▶ Why might the author view the issue this way?
- ▶ What biases may the author have that influence his or her perspective?
- ▶ Does this argument acknowledge other perspectives?
- ▶ How do I know if a source is trustworthy?
- ▶ What are the implications of these arguments?
- ▶ How does this conclusion impact me and my community? Or my research?

Enduring Understandings

(Students will understand that . . .)

EU 2.1: Authors express their ideas, perspectives, and/or **arguments** through their works. The first step in evaluating an author’s perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.

Learning Objectives

(Students will be skilled at . . .)

LO 2.1A: Employing appropriate reading strategies and reading critically for a specific purpose.

Essential Knowledge

(Students will know that . . .)

EK 2.1A1: Reading critically means reading closely to identify the main idea, **tone**, assumptions, context, perspective, **line of reasoning**, and evidence used.

EK 2.1A2: Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning.

EK 2.1A3: Strategies active readers use to make meaning from texts include annotating, note-taking, highlighting, and reading aloud.

EK 2.1A4: Perspectives are shared through written, spoken, visual, or performance texts. A perspective includes the writer’s attitude/tone regarding the subject and is expressed through an argument.

Enduring Understandings	Learning Objectives	Essential Knowledge
(Students will understand that . . .)	(Students will be skilled at . . .)	(Students will know that . . .)
<p>EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.</p>	<p>LO 2.1B: Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification.</p>	<p>EK 2.1B1: The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.</p> <p>EK 2.1B2: Artistic works (e.g., painting, film, music, dance) convey a perspective. Analysis of a work’s context, subject, structure, style, and aesthetic is critical to understanding its aims.</p>
	<p>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</p>	<p>EK 2.2A1: Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.</p> <p>EK 2.2A2: An argument’s line of reasoning is organized based on the argument’s purpose (e.g., to show causality, to define, to propose a solution).</p> <p>EK 2.2A3: Inductive reasoning uses specific observations and/or data points to identify trends, make generalizations, and draw conclusions. Deductive reasoning uses broad facts or generalizations to generate additional, more specific conclusions about a phenomenon.</p> <p>EK 2.2A4: A lack of understanding of the complexities of an argument (tone, implications, limitations, nuance, context) can lead to oversimplification and/or generalization.</p> <p>EK 2.2A5: Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).</p>

Enduring Understandings	Learning Objectives	Essential Knowledge
(Students will understand that . . .)	(Students will be skilled at . . .)	(Students will know that . . .)
	<p>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</p> <p>LO 2.2C: Evaluating the validity of an argument.</p>	<p>EK 2.2B1: An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation.</p> <p>EK 2.2B2: Writers use qualitative and/or quantitative evidence (e.g., facts, data, observations, predictions, analogies, explanations, opinions) to support their claims. Evidence has varying degrees of validity.</p> <p>EK 2.2B3: Authors strategically include evidence to support their claims.</p> <p>EK 2.2B4: Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).</p> <p>EK 2.2B5: Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.</p> <p>EK 2.2B6: Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own biases.</p> <p>EK 2.2C1: An argument is valid when there is logical alignment between the line of reasoning and the conclusion.</p>
<p>EU 2.3: Arguments have implications and consequences.</p>	<p>LO 2.3A: Connecting an argument to broader issues by examining the implications of the author’s claim.</p> <p>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument.</p>	<p>EK 2.3A1: The implications and consequences of arguments may be intended or unintended.</p> <p>EK 2.3B1: Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).</p>

Big Idea 3: Evaluate Multiple Perspectives

Understanding the complexity of an issue, idea, or problem requires students to compare and contrast different perspectives. These multiple perspectives, which may support, oppose, compete with, or otherwise vary from one another, come together to create the conversation on the issue. Students must consider the biases and assumptions behind those perspectives in order to evaluate their relevance and importance in the conversation. Evaluating multiple perspectives and arguments allows students to better understand the complexities of an issue or topic.

Essential Questions

- ▶ What patterns or trends can be identified among the arguments about this issue?
- ▶ What are the implications and/or consequences of accepting or rejecting a particular argument?
- ▶ How can I connect the multiple perspectives? What other issues, questions, or topics do they relate to?
- ▶ How can I explain contradictions within or between arguments?
- ▶ From whose perspective is this information being presented, and how does that affect my evaluation?

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
EU 3.1: Different perspectives often lead to competing and alternative arguments. The complexity of an issue emerges when people bring these differing, multiple perspectives to the conversation.	LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.	EK 3.1A1: An individual’s perspective is influenced by his or her background (e.g., experiences, culture, education), assumptions, and worldview, as well as by external sources. EK 3.1A2: Perspectives are not always oppositional; they may be concurring, complementary, or competing.
EU 3.2: Not all arguments are equal; some arguments are more credible/valid than others. Through evaluating others’ arguments, one’s own arguments can be situated within a larger conversation.	LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.	EK 3.2A1: Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic. EK 3.2A2: When evaluating multiple perspectives or arguments, consideration must be given to how one’s own personal biases and assumptions can influence one’s judgment.

Big Idea 4: Synthesize Ideas

Once enough information is gathered and evaluated, students synthesize their accumulated knowledge, emerging ideas, and perspectives to form conclusions of their own. In order to situate their perspectives within the larger conversation, students must consider other perspectives and points of view. Strong arguments have a clear purpose and are grounded in a logical line of reasoning supported by carefully chosen and relevant evidence. Effective arguments analyze the material and develop a perspective on it. Information from other sources should not stand in for students' own thinking. The goal is for students to think critically about the information and then add to, not simply repeat, the ideas of others. Building arguments on the ideas of others recognizes and acknowledges their perspectives while also establishing one's unique voice in the conversation.

Essential Questions

- ▶ How do I connect and analyze the evidence in order to develop an argument and support a conclusion?
- ▶ What line of reasoning and evidence would best support my argument? Is my reasoning logical?
- ▶ Are there other conclusions I should consider?
- ▶ What am I taking for granted? How do I acknowledge and account for my own biases and assumptions?
- ▶ What is the best way to acknowledge and attribute the work of others that was used to support my argument?
- ▶ How can I avoid committing plagiarism?

Enduring Understandings

(Students will understand that . . .)

EU 4.1: Scholarly works convey perspectives and demonstrate effective lines of reasoning that have been selected for the intended audience, purpose, and situation.

Learning Objectives

(Students will be skilled at . . .)

LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.

Essential Knowledge

(Students will know that . . .)

EK 4.1A1: Effective arguments use reason and evidence to convey a perspective, **point of view**, or some version of the truth that is stated or implied in the **thesis** and/or conclusion.

EK 4.1A2: Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.

EK 4.1A3: Qualifiers place limits on how far a claim may be carried. Effective arguments acknowledge these limits, increasing credibility by reducing overgeneralization or oversimplification.

EK 4.1A4: Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.</p>	<p>LO 4.2A: Interpreting, using, and synthesizing qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, non-print) to develop and support an argument.</p>	<p>EK 4.1A5: The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.</p> <p>EK 4.1A6: The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion).</p> <p>EK 4.1A7: A line of reasoning is organized based on the argument’s purpose (e.g., to show causality, to evaluate, to define, to propose a solution).</p> <p>EK 4.1A8: Claims and supporting evidence are arranged (e.g., spatially, chronologically, order of importance) to convey reasoning and relationship (e.g., comparative, causal, correlational).</p> <p>EK 4.1A9: The same argument may be organized, arranged, or supported in multiple ways depending on audience and context.</p> <hr/> <p>EK 4.2A1: Evidence can be collected from print and non-print sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations).</p> <p>EK 4.2A2: Evidence is used to support the claims and reasoning of an argument. Compelling evidence is sufficient, accurate, relevant, current, and credible to support the conclusion.</p> <p>EK 4.2A3: Evidence is strategically chosen based on context, purpose, and audience. Evidence may be used to align an argument with authority; to define a concept, illustrate a process, or clarify a statement; to set a mood; to provide an example; to amplify or qualify a point.</p> <p>EK 4.2A4: The evidence selected and attributed contributes to establishing the credibility of one’s own argument.</p>

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.</p>	<p>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims.</p>	<p>EK 4.2B1: Commentary connects the chosen evidence to the claim through interpretation or inference, identifying patterns, describing trends, and/or explaining relationships (e.g., comparative, causal, correlational).</p>
	<p>LO 4.3A: Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.</p>	<p>EK 4.3A1: Accurate and ethical attribution enhances one’s credibility.</p> <p>EK 4.3A2: Plagiarism is a serious offense that occurs when a person presents another’s ideas or words as his or her own. Plagiarism may be avoided by acknowledging sources thoroughly and accurately.</p> <p>EK 4.3A3: Source material should be introduced, integrated, or embedded into the text of an argument.</p> <p>EK 4.3A4: Quoted and paraphrased material must be properly attributed, credited, and cited following a style manual. Quoting is using the exact words of others; paraphrasing is restating an idea in one’s own words.</p> <p>EK 4.3A5: Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).</p>
<p>EU 4.4: Forming one’s own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.</p>	<p>LO 4.4A: Extending an idea, question, process, or product to innovate or create new understandings.</p>	<p>EK 4.4A1: Innovative solutions and arguments identify and challenge assumptions, acknowledge the importance of content, imagine and explore alternatives, and engage in reflective skepticism.</p>
<p>EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities, and consequences.</p>	<p>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</p>	<p>EK 4.5A1: When proposing a solution, the advantages and disadvantages of the options and alternatives should be weighed against the goal within its context.</p>

Big Idea 5: Team, Transform, and Transmit

Collaboration, communication, and reflection are skills that provide opportunities for students to develop their learning. When collaborating, students draw upon their own strengths and the strengths of teammates to achieve a common goal.

An argument is effectively communicated when its purpose is clear, it is tailored to a specific audience and context, and it is conveyed through a medium appropriate and appealing to the intended audience. Adhering to standard language conventions and engaging delivery techniques establishes a writer's or speaker's credibility with his or her audience.

Whether working alone or in a group, students reflect on their work and learning processes, which can lead to personal growth as well as even more effective inquiry, learning, and collaboration.

Essential Questions

- ▶ How can I best appeal to and engage my audience?
- ▶ What is the best medium or genre through which to engage my audience?
- ▶ What common misconceptions might my audience have?
- ▶ How might I adapt my argument for different audiences and situations?
- ▶ How might my communication choices affect my credibility with my audience?
- ▶ What contributions can I offer to a team?
- ▶ What is the benefit of revision?
- ▶ How can I benefit from reflecting on my own work?

Enduring Understandings

(Students will understand that . . .)

EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed and presented differently depending on audience, purpose, and context.

Learning Objectives

(Students will be skilled at . . .)

LO 5.1A: Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose.

Essential Knowledge

(Students will know that . . .)

EK 5.1A1: An argument may include the following elements:

- ▶ Introduction: engages the audience by providing background and/or context
 - ▶ Thesis: conveys the main idea of an argument
 - ▶ Reasons, evidence, and commentary: provide support for the argument
 - ▶ Counterargument, concession, refutation, and rebuttal: acknowledge and/or respond to opposing arguments
 - ▶ Conclusion: synthesizes reasoning, considers possible implications for the future, and ties back to the introduction
 - ▶ Bibliography: identifies works cited
-

Enduring Understandings	Learning Objectives	Essential Knowledge
(Students will understand that . . .)	(Students will be skilled at . . .)	(Students will know that . . .)
	<p>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</p>	<p>EK 5.1A2: Coherence is achieved when the elements and ideas in an argument flow logically and smoothly. Transitions are used to move the audience from one element or idea to another by illustrating the relationship between the elements or ideas.</p> <p>EK 5.1B1: A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.</p> <p>EK 5.1B2: Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense.</p> <p>EK 5.1B3: Precision in word choice reduces confusion, wordiness, and redundancy.</p> <p>EK 5.1B4: Spelling and grammar errors detract from credibility.</p> <p>EK 5.1C1: Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding.</p> <p>EK 5.1C2: Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.</p> <p>EK 5.1C3: Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis) according to context, purpose, and audience.</p> <p>EK 5.1D1: Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose.</p> <p>EK 5.1E1: Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) to emphasize information, convey tone, and engage their audience.</p>
<p>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</p>	<p>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</p>	
<p>LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance.</p>		

Enduring Understandings (Students will understand that . . .)	Learning Objectives (Students will be skilled at . . .)	Essential Knowledge (Students will know that . . .)
<p>EU 5.2: Teams are most effective when they draw on the diverse perspectives, skills, and backgrounds of team members to address complex, open-ended problems.</p>	<p>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or goal.</p> <p>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.</p>	<p>EK 5.2A1: Knowing and communicating one’s strengths and challenges to a group allows one’s contributions to be more effective.</p> <p>EK 5.2B1: Teams are built around tasks. Low-risk teambuilding activities and simulations enhance a team’s performance.</p> <p>EK 5.2B2: Teams function at their best when they understand the diversity of their social–cultural perspectives, talents, and skills.</p> <p>EK 5.2B3: Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation.</p> <p>EK 5.2B4: Effective teams consider the use of online collaborative tools.</p>
<p>EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.</p>	<p>LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes.</p> <p>LO 5.3B: Reflecting on experiences of collaborative effort.</p>	<p>EK 5.3A1: Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation.</p> <p>EK 5.3A2: Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.</p> <p>EK 5.3B1: Reflection acknowledges the impact of actions on both the group and individual contributions, noting the reasons for such actions, assumptions made, and whether or not such actions and assumptions hindered or helped the achievement of the group’s and individuals’ tasks.</p>

AP Seminar Instructional Approaches

Organizing the Course

Inquiry and the Academic Conversation

While the AP Seminar course develops core skills for academic success, it also challenges students to learn to think critically about complex issues and form their own perspectives about them. For this reason, the course is organized around topics, themes, or issues chosen at the local level. Helping students move from reviewing literature to building an argument through inquiry is a key goal of the AP Seminar course.

Critical inquiry focuses on the creation of new ideas, perspectives, and arguments. Teachers must help students understand that the research process is not simply about collecting evidence or facts and then piecing them together. Instead, the research process is about *inquiry* — asking questions and coming to solutions and conclusions through serious thinking and reflection. The researcher seeks relevant information in articles, books, and other sources and develops an informed perspective built upon, but not merely derivative of, the ideas in the examined material. As a result, the research process is recursive, meaning that the researcher regularly revisits ideas, seeks new information when necessary, and reconsiders and refines the research questions, topic, and/or approach.

Facilitating students' entrance into academic or real-world conversations about complex issues is another key goal of the AP Seminar course. AP Seminar provides the forum for students to examine multiple, diverse perspectives on issues in order to better understand and appreciate their complexity. Students' cultural backgrounds and experiences provide a rich foundation from which to begin. By considering and evaluating the multiple perspectives of others, students develop their own individual perspectives and add their personal voices to the larger conversation.

All in all, the AP Seminar course aims to build independent, critical thinkers by empowering students to develop the skills and traits necessary for future academic study.

Course Content

Topics and Themes

Teachers have the flexibility to choose one or more appropriate themes that allow for deep interdisciplinary exploration based on:

- ▶ Concepts or issues from other AP courses
- ▶ Student interests
- ▶ Local and/or civic issues
- ▶ Academic problems or questions
- ▶ Global or international topics

Possible Themes

These themes are possible starting points. Within these themes, issues can be identified for exploration and investigation.

- ▶ Aesthetics
- ▶ Belief
- ▶ Communication
- ▶ Courage
- ▶ Culture
- ▶ Democracy
- ▶ Discovery
- ▶ Discrimination
- ▶ Diversity
- ▶ Education
- ▶ Environment
- ▶ Evolution
- ▶ Food
- ▶ Freedom
- ▶ Government
- ▶ Health
- ▶ Home
- ▶ Identity
- ▶ Immigration
- ▶ Innovation
- ▶ Intelligence
- ▶ Justice
- ▶ Language
- ▶ Leisure
- ▶ Liberty
- ▶ Media
- ▶ Modeling
- ▶ Myth
- ▶ Networks
- ▶ Opportunity
- ▶ Patterns
- ▶ Peace
- ▶ Perception
- ▶ Place
- ▶ Power
- ▶ Protest
- ▶ Representation
- ▶ Revolution
- ▶ Rights and responsibilities
- ▶ Social media
- ▶ Space
- ▶ Sustainability
- ▶ Technology
- ▶ Theory
- ▶ Traditions
- ▶ Transformation
- ▶ Utopia
- ▶ War
- ▶ Wealth and poverty
- ▶ Work

Multiple Perspectives and Interdisciplinary Connections

Exploring different points of view and making connections across disciplines are fundamental components of the AP Seminar experience. Students consider each topic through a variety of lenses and from multiple perspectives, many of which are divergent or competing. Analyzing topics through multiple lenses aids in interdisciplinary understanding and helps students gain a rich appreciation for the complexity of important issues. Teachers should encourage students to explore a topic through several of the following lenses:

- ▶ Cultural and social
- ▶ Artistic and philosophical
- ▶ Political and historical
- ▶ Environmental
- ▶ Economic
- ▶ Scientific
- ▶ Futuristic
- ▶ Ethical

As the AP Program engages students in college-level work, the AP Seminar course may include perspectives that could be considered controversial, including references to ethnicity, nationality, religion, politics, race, dialect, sexuality, gender, or class. AP Seminar requires students to have the level of maturity and skill to thoughtfully consider and analyze diverse perspectives. The inclusion of topics, readings, texts, and other source material is not intended as an endorsement by the College Board of the content, ideas, or values expressed in the material.

Texts

Because people share their perspectives through many different types of media, teachers and students are encouraged to draw upon a wide variety of texts. These texts can include printed and online articles, speeches, interviews, and personal narratives, artistic works and performances, or other kinds of texts — anything that conveys a perspective and can be examined.

When selecting texts for study, teachers should challenge students to engage with and analyze complex and scholarly sources. Helping students with the identification of scholarly materials requires a discussion of peer review, which differentiates scholarly from nonscholarly sources in an academic, research community. Students should be invited to find and contribute texts for study, providing them opportunities to make connections of their own.

Access to a variety of print and online style guides, writing and argumentation handbooks, databases, and other reference materials is essential to equip students and teachers with the tools necessary for research and communication. The AP Capstone program does not require or specify a specific style guide. However, students should maintain the conventions of a single style guide in an individual project.

Organizational Models

AP Seminar can be organized in a variety of ways to best address student interests, state and district goals and requirements, and local school traditions and culture. The following table illustrates some possible organizational models.

AP Seminar Model	Description	Example Courses
Thematic Survey	Themes are selected based on teacher and student interest. The themes may be linked with overarching focus or they may be more loosely connected. Interdisciplinary connections are made within each theme and issues are examined through multiple lenses and perspectives.	<p>Civic Engagement</p> <p>Themes are selected by the teacher to support the school's service learning initiative. The units use essential questions to engage students with community issues and challenges:</p> <ul style="list-style-type: none"> ▶ Democracy: Does my civic engagement make a difference? ▶ Sustainability: What impact do I have? ▶ Traditions: Do local traditions encourage or hinder community progress? ▶ Health: How do my choices affect our future?

AP Seminar Model	Description	Example Courses
Disciplinary Focus	The course content is grounded in a specific discipline. Interdisciplinary connections are made to the topics of study.	<p>Student Interest</p> <p>Students are given a list of 10 possible themes by the teacher and asked to rate them. The four highest-rated themes are used for the course:</p> <ul style="list-style-type: none"> ▶ Social networks and individual privacy ▶ Stereotypes in media ▶ Food supply and demand ▶ The youth revolution <hr/> <p>Science</p> <p>This course is offered as an elective in science. The interdisciplinary units connect scientific study with real-world sustainability issues:</p> <ul style="list-style-type: none"> ▶ Marine debris ▶ Renewable energy ▶ Food scarcity ▶ Greenhouse gas emissions ▶ LEED certification <p>Arts</p> <p>This course is offered to students who have an interest or area of emphasis in the arts. The selected themes allow students to examine common issues that intersect the various arts disciplines through multiple lenses:</p> <ul style="list-style-type: none"> ▶ Aesthetics and Interpretation: What is beauty and who decides? ▶ Culture and Context: How does culture and context influence art’s creation? ▶ Transformation and Innovation: How do new forms of art come about? ▶ Myth and Pattern: How does one work of art influence another? Are works of art universal?

AP Seminar Model	Description	Example Courses
Thematic Survey Linked to AP Anchor Course	AP Seminar students are concurrently enrolled in another common AP course, allowing for team teaching and interdisciplinary units.	<p>AP Seminar: American Studies</p> <p>Students are concurrently enrolled in AP U.S. History, allowing for cross-curricular connections between the two courses:</p> <ul style="list-style-type: none"> ▶ Place and Frontiers: Relationships between humans and their environment ▶ Belief and Values: Perspectives on faith and religion ▶ Revolution and Freedom: Historical ideas of protest and solidarity ▶ Identity and Expansion: Diverse views about U.S. expansion, citizenship, and the American dream ▶ Wealth and Poverty: Social and cultural topics and perspectives about current issues
Interdisciplinary Courses	All course topics are connected and cross disciplinary boundaries.	<p>The two example courses listed here are modeled on courses offered as part of the Thinking Matters program at Stanford University.</p> <p>AP Seminar: Sustainability and Collapse</p> <p>Students explore how people have lived with nature over time and how different ways of life have come under pressure. Using fictional and historical texts, students consider definitions of nature from different historical, literary, cultural, and scientific perspectives and examine how these conceptions of nature impact the way we think of what it means to live sustainably.</p> <p>AP Seminar: Networks</p> <p>Students examine and consider how ecological, revolutionary, digital, and social networks are used to understand the natural world, historical change, and social lives. Students will consider networks from the perspectives of a biologist, a computer scientist, a historian and a social scientist.</p>

Discussion Techniques

Discussion is an essential instructional method in the AP Seminar course because it helps students identify and understand multiple perspectives and deepen their own understanding of the topics being studied. Effective discussion goes beyond summary and comprehension in that it requires students to actively grapple with others' ideas as they formulate their own perspectives on an issue. Some discussion strategies are listed in the following table.

Strategy	Purpose	Definition
Socratic Seminar	To help students arrive at a new understanding by asking questions that clarify; challenge assumptions; probe perspective and point of view; question facts, reasons, and evidence; or examine implications and outcomes.	A focused discussion in which students engage with open-ended questions tied to a specific topic or text. The discussion continues with student responses and, when needed, additional open-ended questions that allow students to express their ideas and engage in complex thinking.
Debate	To provide students with an opportunity to collect and orally present evidence supporting the affirmative and negative arguments of a proposition or issue.	The presentation of an informal or formal argumentation that defends a claim with reasons, while others defend different claims about the same topic or issue. The goal is to debate ideas without attacking the people who defend those ideas.
Jigsaw	To have students summarize and present information to others in a way that facilitates an understanding of a text (or multiple texts) or issue without having each student read the text in its entirety; by teaching others, they become experts.	Each student in a group reads a different text or different passage from a single text, taking on the role of “expert” on what was read. Students share the information from that reading with students from other groups and then return to their original groups to share their new knowledge.
Fishbowl	To provide students with an opportunity to engage in a formal discussion and to experience the roles of both participant and active listener; students also have the responsibility of supporting their opinions and responses using specific evidence.	Some students form an inner circle and model appropriate discussion techniques while an outer circle of students listens, responds, and evaluates.
Shared Inquiry	To allow a teacher to lead a deep discussion of a text and encourage a diversity of ideas to emerge as students think deeply and share interpretations.	Students read a provocative text and are asked interpretative questions (questions for which there are no predetermined “right” answers). Students offer different answers and debate one another, supporting their positions with specific evidence from the text.
Discussion Group	To allow students to gain new understanding of or insight into a text or issue by listening to multiple perspectives.	Students engage in an interactive, small-group discussion, often with an assigned role (e.g., questioner, summarizer, facilitator, evidence keeper) to consider a topic, text, question, etc.
Debriefing	To solidify and deepen student understanding.	A facilitating discussion that leads to consensus understanding or helps students identify the key conclusions or takeaways.

Teaching the Skills

The focus of AP Seminar is on skill development: students practice, refine, and master the skills critical for academic success. The curriculum framework identifies the learning objectives and essential knowledge that address the core skills listed below in more detail. As teachers create instructional units, they should carefully plan so that skills are developmentally sequenced and appropriate scaffolding is provided. The table below illustrates representative instructional strategies that may be used to help students develop these core skills.

Core Skill Area	Description	Representative Instructional Strategies
Critical Thinking and Reasoning	<p>The thinking process of analyzing, interpreting, synthesizing, and evaluating perspectives.</p> <p>Thinking strategies used in critical thinking include:</p> <ul style="list-style-type: none"> ▶ comparing and/or contrasting ▶ identifying patterns and trends ▶ explaining relationships (comparative, causal, correlational) 	<p>Using a graphic organizer: Using a visual system for organizing multiple ideas, relationships, perspectives, and/or arguments and their supporting evidence. Examples include Venn diagrams, flowcharts, mind maps, etc.</p> <p>Note-taking: Recording, in a concise format, important or relevant information from a text.</p>
Critical Reading	<p>The strategic process of discovering ideas and information in a text.</p> <p>Critical reading strategies include:</p> <ul style="list-style-type: none"> ▶ contextualizing ▶ questioning assumptions ▶ identifying bias and implications ▶ making inferences ▶ making connections 	<p>Close reading: Carefully reading, rereading, marking, and annotating a passage — word by word, line by line, and sentence by sentence.</p> <p>Marking the text: Selecting text by highlighting, underlining, and/or annotating for specific components, such as main idea, assumptions, evidence, etc.</p> <p>Summarizing, paraphrasing, retelling: Restating, in the student's own words, essential information expressed in a text.</p> <p>Using metacognitive markers: Responding to a text with a system of cueing marks such as a question mark for questions, an exclamation point for reactions, an asterisk for comments about the text, and underlining to signal key ideas.</p> <p>Previewing: Examining a text's structure, features, layout, etc. prior to reading.</p> <p>Questioning the text: Developing questions about a text while reading it.</p> <p>Using a Think-aloud: Talking through a difficult text or task by using a form of metacognition whereby the student expresses how he or she has made sense of the text or task.</p>

Core Skill Area	Description	Representative Instructional Strategies
Inquiry and Research	<p>The process of discovering new understandings or ideas.</p> <p>Inquiry and research strategies include:</p> <ul style="list-style-type: none"> ▶ identifying a problem or issue ▶ determining the best strategy to address the problem or issue ▶ gathering evidence ▶ drawing and supporting a conclusion 	<p>Chunking the text: Breaking a text into smaller, more manageable units of sense (e.g., words, sentences, paragraphs) by numbering, separating phrases, drawing boxes, etc.</p> <p>I-Search paper: A personal research paper about a topic that is important to the student. Usually less formal than a traditional research paper, an I-Search paper tells the story of the writer’s personal search for information, as well as what the writer learned about the topic.</p> <p>Service learning: Linking classroom-based contexts with field-based “experiential learning” within the community. Students gain direct experience of issues they are studying in the curriculum and ongoing efforts to analyze and address problems in the community. Students are given an opportunity to apply what they are learning in real-world settings and to reflect in a classroom setting on their service experiences.</p> <p>WebQuest: An inquiry-oriented lesson format in which most or all of the information that learners work with comes from the Web.</p> <p>Source mining: Reviewing the bibliographies of research studies or articles on a topic to see which names or works are referenced repeatedly to get an overview of key scholars or sources in the field.</p> <p>Annotated bibliography: A bibliography that includes a brief summary of each source and a commentary about its usefulness to the inquiry along with the source’s citation.</p> <p>Question formulation technique: The teacher provides a stimulus from which students openly brainstorm questions; students then categorize the questions as either open-ended or closed-ended, work on improving them, prioritize them, use them, and reflect on their use.</p>

Core Skill Area	Description	Representative Instructional Strategies
Argumentation	<p>The process of making a claim and developing a line of reasoning supported by evidence.</p> <p>Critical components of argumentation include:</p> <ul style="list-style-type: none"> ▶ thesis or question development ▶ developing a line of reasoning ▶ making claims ▶ selecting evidence and attributing its use ▶ providing commentary ▶ considering other perspectives ▶ drawing a conclusion ▶ attention to grammar, usage, and mechanics 	<p>Socratic seminar: A focused discussion in which students engage with open-ended questions tied to a specific topic or text. The discussion continues with student responses and, when needed, additional open-ended questions that allow students to express their ideas and engage in complex thinking.</p> <p>Debate: The presentation of an informal or formal argumentation that defends a claim with reasons, while others defend different claims about the same topic or issue. The goal is to debate ideas without attacking the people who defend those ideas.</p> <p>Outlining/Reverse outlining: Using a system of numerals and letters to identify relationships between key points and supporting evidence and to ensure an appropriate balance of ideas and a coherent line of reasoning. This process can be done prior to the writing process and/or at the end (in reverse) when students are revising and editing their work.</p>
Communicating	<p>The process of conveying a clear message in a way that engages and appeals to a specific audience.</p> <p>Techniques that may be used to emphasize ideas and engage an audience include:</p> <ul style="list-style-type: none"> ▶ eye contact ▶ vocal variety (tempo, inflection) ▶ emphatic gestures ▶ movement ▶ appropriate visuals 	<p>Peer review: Students provide structured review of each other’s presentations according to a set of established criteria or guidelines (e.g., comments must not be personal; comments must be constructive with suggestions for improvement).</p> <p>Videotaping for self-evaluation and reflection: Individual students review recordings of their own presentations with guided reflection questions focusing on specific techniques.</p> <p>Practice modeling: The teacher models for the class presentation techniques for emphasizing ideas and engaging an audience (eye contact, gestures, use of voice, etc.). Students then practice using those techniques and gain feedback from their peers.</p>

Core Skill Area	Description	Representative Instructional Strategies
Collaboration	<p>The process of working with others to accomplish a shared task or goal or solve a problem.</p> <p>Strategies for collaboration include:</p> <ul style="list-style-type: none"> ▶ individual role and contribution ▶ consensus building ▶ conflict resolution 	<p>Teambuilding activities: Warm-up activities in which group members work together to solve a small puzzle or problem, building or strengthening relationships and rapport before engaging in the main task.</p> <p>Collective determination of group norms: Students discuss in small groups what they think should be the group norms (the rules that define acceptable and unacceptable behavior within groups). They then engage in an all-class discussion on the various rules proposed and come to a consensus as to the final set of rules to be implemented for all groups. This process allows students to have an active role in designing course policies, which may help to increase buy-in.</p> <p>Assigning roles: Assigning roles (e.g., facilitator, timekeeper, recorder, presenter) to individual group members for a particular topic or investigation and then switching the roles so that students get to experience as many as possible.</p>

AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information

Participating teachers shall inform students of the consequences of plagiarism and instruct students to ethically use and acknowledge the ideas and work of others throughout their course work. The student's individual voice should be clearly evident, and the ideas of others must be acknowledged, attributed, and/or cited.

A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

Bridging to the AP Research Course

Upon class completion of the assessment tasks for the AP Seminar course, teachers should provide students with a preview of the skills, goals, and timelines of the next course in the AP Capstone program: AP Research. Students who will continue on to the AP Research course should be given the opportunity to:

- ▶ develop a list of topics and high-level questions to spark their interest in engaging in an individual research project;
- ▶ identify potential consultants or expert advisers to guide them in the planning and development of their research project;
- ▶ identify potential opportunities (if they are interested) to perform primary research with an expert adviser during the summer, via internships or summer research projects for high school students offered in the community and local higher education institutions; and
- ▶ discuss research project planning skills and ideas with students who are currently taking the AP Research course.

In schools that permit students to begin the AP Research course in the summer, the AP Seminar and AP Research course instructors should provide AP Research students with additional instruction, assignments, and avenues for continued communication to guide them through the research planning process during the summer months.

AP Seminar Assessment Overview

Students are assessed with two through-course performance tasks and one end-of-course exam. All three assessments are summative and will be used to calculate a final AP score (using the 1–5 scale) for AP Seminar.

- ▶ **Team Project and Presentation — 20%**
- ▶ **Individual Research-Based Essay and Presentation — 35%**
- ▶ **End-of-Course Exam (2 Hours) — 45% (College Board Scored)**

AP Seminar Performance Task 1: Team Project and Presentation

Weight: 20% of the AP Seminar score

Recommended Completion Date: February 28

Submission Deadline: April 30

Note: *Teachers must carefully plan a calendar that provides time for all the tasks to be completed, scored, and uploaded by April 30.*

Teachers must upload and submit the following for this task by April 30:

- ▶ Individual Research Report for each student
- ▶ Internal Score Report for the following components
 - › Individual Research Report (IRR)
 - › Team Multimedia Presentation and Defense (TMP)

Task Overview

Students work in teams of three to five to identify, investigate, and analyze an academic or real-world problem or issue. Each team designs and/or considers options and evaluates alternatives; develops a multimedia presentation to present the argument for their proposed solution or resolution; and provides a defense to questions posed by the teacher.

Components

The following components are formally assessed:

Component	Scoring Method	Weight
Individual Research Report (1200 words)	Teacher scored, College Board validated (individual score)	50% of 20%
Team Multimedia Presentation and Defense (8–10 minutes, plus defense questions)	Teacher scored (group score)	50% of 20%

Task Guidelines

In this project, three to five students collaborate as a team to identify a problem or issue (e.g., local, national, global, academic/theoretical/philosophical). Each team develops a team research question and conducts preliminary research. They identify approaches, perspectives, or lenses and divide responsibilities among themselves for individual research that will address the team’s research question.

Individually, students investigate their assigned approach, perspectives, or lens on the issue or topic of the team research question. Each student presents his or her findings and analysis to the group in a well-written individual report that:

- ▶ identifies the area of investigation and its relationship to the overall problem or issue;
- ▶ summarizes, explains, analyzes, and evaluates the main ideas and reasoning in the chosen sources;
- ▶ identifies, compares, and interprets a range of perspectives about the problem or issue; and
- ▶ cites all sources used and includes a list of works cited or bibliography.

Working collaboratively, the team considers all of the research and analyses from individual team members for the purpose of proposing one or more solutions or resolutions. The team:

- ▶ collaboratively synthesizes and evaluates individual findings and perspectives to create a collective understanding of different approaches to the problem or issue;
- ▶ considers potential solutions or resolutions and conducts additional research in order to evaluate different solutions within the context of the problem; and
- ▶ proposes one or more solutions or resolutions and prepares an argument to support their proposal.

The team develops an 8–10 minute presentation that presents a convincing argument for the proposed solutions or recommendations. The team should ensure the claims made are supported by evidence and that they have considered different perspectives and the limitations and implications of their proposed solutions or recommendations. The presentation and the media used to enhance the presentation should consider audience, context, and purpose. *Teachers should collect presentation media from all teams in the school's AP Seminar course(s) before any team actually delivers the oral presentation.* Following the presentation, the team will defend its argument, with each student responding to a question posed by the teacher. Each team member should be prepared to answer questions about any part of the presentation.

Role of Teacher

Teachers

- ▶ must ensure students are aware of the task, timeline, components, and scoring criteria
- ▶ may explore issues, discuss topics and perspectives, and/or question students as necessary
- ▶ oversee the formation of groups
- ▶ may continue whole-class teaching of skills pertinent to the performance task as students are working on their research and/or presentations
- ▶ may share the rubric with students
- ▶ may encourage students to review each other's work

Teachers may not

- ▶ assign, provide, distribute, or generate research questions for students
- ▶ conduct or provide research/articles/evidence for students
- ▶ write, revise, amend, or correct student work
- ▶ give specific, directive feedback to individual groups
- ▶ reveal defense questions to students prior to the presentation

Instructions for the Oral Defense

Following the presentation, teachers should ask one question of each individual student. The questions are designed to assess the students' reflection on their experiences of collaborating as a group. It is important that teachers ask students questions that allow them to provide specific evidence of their collaboration (for example, asking one student about another team member's research).

Teachers may select questions from the list or formulate more specific questions appropriate to a team's presentation, as long as the questions posed address this criterion. Teachers may also ask follow-up clarifying questions to allow students the opportunity to fully explain their answers.

Here are some examples of the types of questions your teacher might ask you during your oral defense. These are *examples only*; your teacher may ask you different questions.

1. Describe how the content of the team presentation was changed as a result of group discussion.
2. Student A, how did the group decide to include Student B's perspective/lens/conclusions into the overall presentation?
3. Student A, give one specific way that your thinking changed as a result of learning about Student B's findings.
4. In the future, what change would you make to your group norms, and how would you expect that to improve the team presentation.
5. Reflecting on your colleagues' work, which one had the greatest impact on your overall understanding of the problem your group identified?
6. In what way did you improve your ability to work with a group as a result of this project?
7. What is an example of a compelling argument from one of your peer's individual reports that you decided to exclude from your team presentation and why?
8. What is a way in which your team's resolution makes you think differently about your own individual research?
9. What was the strongest counter argument to the solution or conclusion your team identified and why?
10. Describe an argument from one of your peer's individual reports that made you think differently about your team's solution or conclusion?
11. Having finished your project, what if anything do you consider to be a gap in your team's research that, if addressed, would make you feel more confident about your conclusion?

AP Seminar Performance Task 2: Individual Research-Based Essay and Presentation

Weight: 35% of the AP Seminar score

Recommended Completion Date: April 15

Submission Deadline: April 30

*Note: Students must be given at least 30 school days (state testing, spring breaks, holidays, etc. would not count toward those days) to complete their research, compose their essays, and develop their presentations. The actual presentations must take place outside the 30-day window. The task is complex and rigorous, so students must be given sufficient time to complete it. Teachers would disadvantage students by giving them less time. Giving more time could also disadvantage students by reducing the time available for completing the Team Project and Presentation. Teachers should collect written work and presentation media from every student in the school's AP Seminar course(s) before any student actually delivers the oral presentation. **Teachers must carefully plan a calendar that provides time for all the tasks to be completed, scored, and uploaded by April 30.***

Teachers must upload and submit the following for this task by April 30:

- ▶ Individual Written Argument for each student
- ▶ Internal Score Report for the following components:
 - › Individual Written Argument (IWA)
 - › Individual Multimedia Presentation (IMP)
 - › Oral Defense (OD)

Task Overview

The College Board's AP Program will annually release cross-curricular stimulus material (texts) representing a range of perspectives focused on a single theme. Students will read and analyze the texts to identify thematic connections among them and possible areas for inquiry; compose a research question of their own; conduct research; analyze, evaluate, and select evidence to develop an argument; and present and defend their conclusions. The final paper must incorporate at least one of the provided sources.

Criteria for Stimulus Material

On or about January 2 of each year, the College Board will release academic, cross-curricular stimulus material (texts) focused on a theme representing a range of perspectives from each of the following domains:

- ▶ Natural Sciences, Technology, Mathematics, Environment
- ▶ Social Sciences, Politics, Economics, Psychology
- ▶ Arts (Visual Arts, Music, Dance, Theater)
- ▶ Culture, Languages, Linguistics
- ▶ History
- ▶ Literature, Philosophy, Critical Theory/Criticism

The following will be represented in the texts:

- ▶ Visual text and/or multimedia
- ▶ Quantitative data

Note: The inclusion of sources in this assessment is not intended as an endorsement by the College Board or ETS of the content, ideas, or values expressed by the authors.

Components

The following components are formally assessed:

Component	Scoring Method	Weight
Individual Written Argument (2,000 words)	Teacher scored, College Board validated	70% of 35%
Individual Multimedia Presentation (6–8 minutes)	Teacher scored	20% of 35%
Oral Defense (two questions from the teacher)	Teacher scored	10% of 35%

Task Guidelines

Teachers must ensure that students will have at least 30 school days to complete this project upon distribution of the stimulus materials. *Students must be given at least 30 school days to complete their research, compose their essays, and develop their presentations.* Student presentations must be scheduled after the 30-day window.

Teachers engage students in discussions of emerging issues from the cross-curricular stimulus material supplied by the College Board. Materials are released on or about January 2 of each year, and students must address the current year's stimulus material in their written responses.

Students read and analyze the provided stimulus materials to identify thematic connections among the sources and possible areas for inquiry. They compose a research question prompted by their analysis of the stimulus materials. They then gather additional information through research; analyze, evaluate, and select evidence; and develop a logical, well-reasoned argument of 2,000 words. The final paper must refer to and incorporate at least one of the sources provided.

Students must avoid plagiarism by acknowledging, attributing, and/or citing sources throughout the paper and including a bibliography (see the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information).

Students each develop a 6–8 minute presentation using appropriate media and present it to an audience of their peers. This presentation is an opportunity for students to present their conclusions by building arguments that convey their perspectives. The presentations should use the evidence to support students' own arguments and situate their perspectives in their larger contexts rather than merely summarizing student research. Finally, students defend their research process, use of evidence, and conclusion through oral responses to two questions asked by the teacher.

Role of Teacher

Teachers

- ▶ must ensure students are aware of the task, timeline, components, types of and sample generic questions for the defense, and scoring criteria
- ▶ may lead discussion of the stimulus material, discuss topics and perspectives, and/or question students as necessary
- ▶ may continue whole-class teaching of skills pertinent to the performance task as students are working on their research and/or presentations
- ▶ may share the rubric with students
- ▶ may encourage students to review each other's work

Teachers may not

- ▶ assign, provide, distribute, or generate research questions for students
- ▶ conduct or provide research/articles/evidence for students
- ▶ write, revise, amend, or correct student work
- ▶ give specific, directive feedback to individual students on their work
- ▶ provide or identify specific defense questions a student will be asked prior to his or her defense

Instructions for the Oral Defense

Following the presentation, teachers should ask two questions of the student. This component is designed to assess the student's response to and understanding of the two criteria below, and a question must be asked to address each of them. Teachers may select questions from the list or formulate more specific questions appropriate to a student's presentation, as long as the questions posed address the two criteria below. Teachers may also ask follow-up clarifying questions to allow students the opportunity to fully explain their answers.

1. Reflection on the Research Process

- › What information did you need before you began your research, and how did that information shape your research?
- › What evidence did you gather that you didn't use? Why did you choose not to use it?
- › How valid and reliable are the sources you've used? How do you know? Which sources didn't work?
- › How did you select the strategies you used to gather information or conduct research? Were they effective?
- › How did your research question evolve as you moved through the research process? Did your research go in a different direction than you originally planned/hypothesized?

- › What information did you need that you weren't able to find or locate? How did you go about trying to find that information?
- › How did you handle the differing perspectives in order to reach a conclusion?

2. Extending argumentation through effective questioning and inquiry

- › What additional questions emerged from your research? Why are these questions important?
- › What advice would you have for other researchers who consider this topic?
- › What might be the real-world implications or consequences (influence on others' behaviors or decision-making processes) of your findings? What are the implications to your community?
- › If you had more time, what additional research would you conduct related to this issue?
- › Explain the level of certainty you have about your conclusion, solution, or recommendation.
- › How does your conclusion respond to any of the other research or sources you examined?
- › How did you use the conclusions and questions of others to advance your own research?

AP Seminar End-of-Course Exam

Weight: 45% of the AP Seminar score (College Board scored)

Date: May (in the AP Exam administration window)

Note: The end-of-course exam will be administered by the AP Coordinator following the same procedures and guidelines as all other Advanced Placement Exams.

Task Overview

During the AP Exam administration window, students will take the AP Seminar End-of-Course Exam. The exam consists of four items (three short-answer and one essay question). The three short-answer questions assess analysis of an argument in a single source or document. The essay question assesses students' skills in synthesizing and creating an evidence-based argument.

Description of End-of-Course Exam

Five sources will be included with each end-of-course exam. Sources and readings on the end-of-course exam will represent a range of disciplines and perspectives. The four questions listed in the table below will remain the same on the end-of-course exam from year to year.

Components

The following components are formally assessed:

Component	Scoring Method	Weight
<p>Part A Suggested time: 30 minutes One source provided</p> <p>Students are asked to analyze an argument using evidence.</p> <ol style="list-style-type: none"> 1. Identify the author's argument, main idea, or thesis. 2. Explain the author's line of reasoning by identifying the claims used to build the argument and the connections between them. 3. Evaluate the effectiveness of the evidence the author uses to support the claims made in the argument. 	College Board scored	30% of 45%

Component	Scoring Method	Weight
<p>Part B Suggested time: 90 minutes Four sources provided</p> <p>Students are asked to build their own arguments using at least two of the four provided sources. Each of the four sources will explore a common theme through a different lens, allowing multiple entry points for students to approach the topic.</p> <p>Directions: Read the <u>four</u> sources carefully, focusing on a theme or issue that connects them and the different perspective each represents. Then, write a logically organized, well-reasoned, and well-written argument that presents your own perspective on the theme or issue you identified. You must incorporate at least <u>two</u> of the sources provided and link the claims in your argument to supporting evidence. You may also use the other provided sources or draw upon your own knowledge. In your response, refer to the provided sources as Source A, Source B, Source C, or Source D, or by the authors' names.</p>	College Board scored	70% of 45%

Reproducibles for Students

The following pages contain reproducible versions of the Performance Tasks, Sample End-of-Course Exam, stimulus material, and AP Capstone Tips for Students.

AP Seminar Performance Task 1: Team Project and Presentation

Student Version

Weight: 20% of the AP Seminar score

Task Overview

You will work in teams of three to five to identify, investigate, and analyze an academic or real-world problem or issue; consider options and alternatives; and present and defend your proposed solution(s) or resolution(s). The components that comprise this task are the Individual Research Report and the Team Presentation and Defense. These components are made up of the following elements, each of which you will need to complete in order to fulfill the task requirements:

Task Elements	Length	Date Due (fill in)
Individual Research Report	1200 words	
Team Presentation	8–10 minutes	
Oral Defense (part of Team Presentation)	Each student responds to 1 question	

In all written work, you must:

- ▶ Acknowledge, attribute, and/or cite sources using in-text citations, endnotes, or footnotes, and/or through bibliographic entry. You must avoid plagiarizing (see the attached AP Capstone Policy on Plagiarism).
- ▶ Adhere to established conventions of grammar, usage, style, and mechanics.

Task Directions

1. Team Coordination

- ▶ **As a team**, collaborate to identify an academic or real-world problem or issue (e.g., local, national, global, academic/theoretical/philosophical).
- ▶ Develop a team research question that can be viewed from multiple perspectives.
- ▶ Conduct preliminary research to identify possible approaches, perspectives, or lenses.
- ▶ Divide responsibilities among group members for individual research that will address the team's research question.

2. Individual Research Report (1200 words)

- ▶ Work with your team to decide and clarify your individual approach to the team question.
- ▶ Throughout your research and as a team, continually revisit and refine your original team research question to ensure that the evidence you gather addresses your collective purpose and focus.

(continues)

- ▶ **On your own**, investigate your assigned approach, range of perspectives or lens on the problem or issue of your team research question.
- ▶ Identify a variety of sources that relate to your particular approach to the team research question.
- ▶ Analyze and evaluate the relevance and credibility of sources and evidence.
- ▶ Synthesize the perspectives you have gathered and chose which ones would be most valuable to share with your team in your individual report.
- ▶ Consult with your peers to get feedback and refine your approach throughout.
- ▶ Ensure that the report that you submit is entirely your own work.
- ▶ Present your findings and analysis to your group in a well-researched and well-written report in which you:
 - › Identify an area of investigation and explain its relationship to the overall problem or issue.
 - › Summarize, explain, analyze and evaluate the main ideas and reasoning in the chosen sources.
 - › Evaluate the credibility of chosen sources and relevance of evidence to the inquiry.
 - › Identify, compare and interpret a range of perspectives about the problem or issue.
 - › Cite all sources that you have used, and include a list of works cited or a bibliography.
 - › Use correct grammar and style.
- ▶ Do a word count and keep under the 1200-word limit (excluding footnotes, bibliography, and text in figures or tables).
- ▶ Remove any references to your name, school, or teacher.
- ▶ Upload your document to the AP Digital Portfolio.

3. Team Collaboration and Argument Construction

- ▶ Read all team members' reports.
- ▶ Teach other team members what you learned so that all team members understand all perspectives presented in the reports (in the Oral Defense, you may be asked about any team member's work)
- ▶ Collaboratively synthesize and evaluate individual findings and perspectives to create a collective understanding of different approaches to the problem or issue.
- ▶ Consider potential solutions or resolutions to your team's problem or issue.
- ▶ Conduct additional research on solutions or resolutions.
- ▶ Evaluate different solutions in relation to context and complexity of the problem.
- ▶ Propose a solution or resolution to your problem or issue.
- ▶ Develop an argument to support your proposed solution.

(continues)

4. Team Multimedia Presentation and Defense (8–10 minutes)

Together with your team, develop a presentation that presents a convincing argument for your proposed solution or resolution. Your claims should be supported by evidence and you should show you have considered different perspectives and the limitations and implications of your proposed solution or resolution.

When preparing your presentation:

- ▶ Develop and prepare a multimedia presentation that will present your argument for your proposed solution or resolution.
- ▶ Plan each team member's role in the presentation design and delivery.
- ▶ Design your oral presentation with supporting visual media, and consider audience, context, and purpose.
- ▶ Prepare to engage your audience using appropriate strategies (e.g., eye contact, vocal variety, expressive gestures, movement).
- ▶ Prepare notecards or an outline that you can quickly reference as you are speaking so that you can interact with supporting visuals and the audience.
- ▶ Rehearse your presentation in order to refine your design and practice your delivery.
- ▶ Check that you can do the presentation within the 8- to 10-minute time limit.
- ▶ Practice asking each other questions about the process and product of this project to prepare for your oral defense.
- ▶ Deliver an 8–10 minute multimedia presentation in which you:
 - › Evaluate potential resolutions, conclusions, or solutions to problems or issues raised by different perspectives considered by your team by considering their implications and consequences.
 - › Present a well-reasoned argument that links claims and evidence about why you chose your proposed solution or resolution.
 - › Identify and explain objections, implications, and limitations of competing perspectives.
 - › Engage the audience with an effective and clearly organized presentation design.
 - › Engage the audience with effective techniques of delivery and performance.
 - › Demonstrate equitable participation and engagement of all team members.
- ▶ Following the presentation, your team will defend its argument. Your teacher will ask each individual team member a question in which you will:
 - › Reflect on experiences of collaborative effort and defend your team's work. Each team member should be prepared to answer questions about any part of the presentation or research process (including information that others in your team have researched and/or presented).

(continues)

Sample Oral Defense Questions

Here are some examples of the types of questions your teacher might ask you during your oral defense. These are *examples only*; your teacher may ask you different questions.

1. Describe how the content of the team presentation was changed as a result of group discussion.
2. Student A, how did the group decide to include Student B's perspective/lens/ conclusions into the overall presentation?
3. Student A, give one specific way that your thinking changed as a result of learning about Student B's findings.
4. In the future, what change would you make to your group norms, and how would you expect that to improve the team presentation.
5. Reflecting on your colleagues' work, which one had the greatest impact on your overall understanding of the problem your group identified?
6. In what way did you improve your ability to work with a group as a result of this project?
7. What is an example of a compelling argument from one of your peer's individual reports that you decided to exclude from your team presentation and why?
8. What is a way in which your team's resolution makes you think differently about your own individual research?
9. What was the strongest counter argument to the solution or conclusion your team identified and why?
10. Describe an argument from one of your peer's individual reports that made you think differently about your team's solution or conclusion?
11. Having finished your project, what if anything do you consider to be a gap in your team's research that, if addressed, would make you feel more confident about your conclusion?

AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information

A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

AP Seminar Performance Task 2: Individual Research-Based Essay and Presentation

Student Version

Weight: 35% of the AP Seminar score

Task Overview

This packet includes a set of stimulus materials for the AP Seminar Performance Task 2: Individual Research-Based Essay and Presentation.

You must identify a research question prompted by analysis of the provided stimulus materials, gather information from a range of additional sources, develop and refine an argument, write and revise your argument, and create a presentation that you will be expected to defend. Your teacher will give you a deadline for when you need to submit your written argument and presentation media. Your teacher will also give you a date on which you will give your presentation.

Task Components	Length	Date Due (fill in)
Individual Written Argument	2000 words	
Individual Multimedia Presentation	6–8 minutes	
Oral Defense	Respond to 2 questions	

In all written work, you must:

- ▶ Acknowledge, attribute, and/or cite sources using in-text citations, endnotes or footnotes, and/or through bibliographic entry. You must avoid plagiarizing (see the attached AP Capstone Policy on Plagiarism).
- ▶ Adhere to established conventions of grammar, usage, style, and mechanics.

Task Directions

1. Individual Written Argument (2000 words)

- › Read and analyze the provided stimulus materials to identify thematic connections among the sources and possible areas for inquiry.
- › Compose a research question of your own prompted by analysis of the stimulus materials.
- › Gather information from a range of additional sources representing a variety of perspectives, including scholarly work.
- › Analyze, evaluate, and select evidence. Interpret the evidence to develop a well-reasoned argument that answers the research question and conveys your perspective.

(continues)

- › Throughout your research, continually revisit and refine your original research question to ensure that the evidence you gather addresses your purpose and focus.
- › Identify opposing or alternate views and consider their implications and/or limitations as you develop resolutions, conclusions, or solutions to your research question.
- › Compose a coherent, convincing and well-written argument in which you:
 - ♦ Identify and explain the relationship of your inquiry to a theme or connection among at least two of the stimulus materials prompted by your reading.
 - ♦ Incorporate at least one of the stimulus materials.
 - ♦ Place your research question in context.
 - ♦ Include a variety of perspectives.
 - ♦ Include evidence from a range of sources.
 - ♦ Establish an argument that links claims and evidence.
 - ♦ Provide specific resolutions, conclusions and/or solutions.
 - ♦ Evaluate objections, limitations or competing perspectives and arguments.
 - ♦ Cite all sources that you have used, including the stimulus materials, and include a list of works cited or a bibliography.
 - ♦ Use correct grammar and style.
- › Do a word count and keep under the 2000-word limit (excluding footnotes, bibliography, and text in figures or tables).
- › Remove references to your name, school or teacher.
- › Upload your document to the AP Digital Portfolio.

2. Individual Multimedia Presentation (6–8 minutes)

- › Develop and prepare a multimedia presentation that will convey your argument to an audience of your peers.
- › Be selective about the information you choose for your presentation by focusing on key points you want your audience to understand.
- › Design your oral presentation with supporting visual media, and consider audience, context, and purpose.
- › Prepare to engage your audience using appropriate strategies (e.g., eye contact, vocal variety, expressive gestures, movement).
- › Prepare notecards or an outline that you can quickly reference as you are speaking so that you can interact with supporting visuals and the audience.
- › Rehearse your presentation in order to refine your design and practice your delivery.
- › Check that you can do the presentation within the 6- to 8-minute time limit.

(continues)

- › Deliver a 6–8 minute multimedia presentation in which you:
 - Contextualize and identify the importance of your research question.
 - Explain the connection between your research and your analysis of the stimulus materials.
 - Deliver an argument that connects claims and evidence.
 - Incorporate, synthesize and interpret evidence from various perspectives.
 - Offer resolutions, conclusions, and/or solutions based on evidence and consider the implications of any suggested solutions.
 - Engage the audience with an effective and clearly organized presentation design.
 - Engage the audience with effective techniques of delivery and performance.

3. Individual Oral Defense (two questions)

Defend your research process, use of evidence, and conclusion(s), solution(s), or recommendation(s) through oral responses to two questions asked by your teacher. Be prepared to describe and reflect on your process as well as defend and extend your written work and oral presentation.

Sample Oral Defense Questions

Here are some examples of the types of questions your teacher might ask you during your oral defense. These are *examples only*; your teacher may ask you different questions, but there will still be one question that relates to each of the following two categories.

1. Reflection on Research Process

- › What information did you need before you began your research, and how did that information shape your research?
- › What evidence did you gather that you didn't use? Why did you choose not to use it?
- › How valid and reliable are the sources you used? How do you know? Which sources didn't work?
- › How did you select the strategies you used to gather information or conduct research? Were they effective?
- › How did your research question evolve as you moved through the research process? Did your research go in a different direction than you originally planned/hypothesized?
- › What information did you need that you weren't able to find or locate? How did you go about trying to find that information?
- › How did you handle the differing perspectives in order to reach a conclusion?

(continues)

2. Extending argumentation through effective questioning and inquiry

- › What additional questions emerged from your research? Why are these questions important?
- › What advice would you have for other researchers who consider this topic?
- › What might be the real-world implications or consequences (influence on others' behaviors or decision-making processes) of your findings? What are the implications to your community?
- › If you had more time, what additional research would you conduct related to this issue?
- › Explain the level of certainty you have about your conclusion, solution, or recommendation.
- › How does your conclusion respond to any of the other research or sources you examined?
- › How did you use the conclusions and questions of others to advance your own research?

(continues)

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Vanishing Voices

By Russ Rymer

Photographs by Lynn Johnson

From *National Geographic*, July 2012

One language dies every 14 days. By the next century nearly half of the roughly 7,000 languages spoken on Earth will likely disappear, as communities abandon native tongues in favor of English, Mandarin, or Spanish. What is lost when a language goes silent?



Johnny Hill, Jr., of Parker, Arizona, is one of the last speakers of Chemehuevi, an endangered Native American language: "It's like a bird losing feathers. You see one float by, and there it goes—another word gone."

TUVAN

THE COMPASSION OF KHOJ ÖZEERI



ONE MORNING in early fall Andrei Mongush and his parents began preparations for supper, selecting a black-faced, fat-tailed sheep from their flock and rolling it onto its back on a tarp outside their livestock paddock. The Mongush family's home is on the Siberian taiga, at the edge of the endless steppes, just over the horizon from Kyzyl, the capital of the Republic of Tuva, in the Russian Federation. They live near the geographic center of Asia, but linguistically and personally, the family inhabits a borderland, the frontier between progress and tradition. Tuvans are historically nomadic herders, moving their *aal*—an encampment of yurts—and their sheep and cows and reindeer from pasture to pasture as the seasons progress. The elder Mongushes, who have returned to their rural *aal* after working in the city, speak both Tuvan and Russian. Andrei and his wife also speak English, which they are teaching themselves with pieces of paper labeled in English pasted onto seemingly every object in their modern kitchen in Kyzyl. They work as musicians in the Tuvan National Orchestra, an ensemble that uses traditional Tuvan instruments and melodies in symphonic arrangements. Andrei is a master of the most characteristic Tuvan music form: throat singing, or *khöömei*.

When I ask university students in Kyzyl what Tuvan words are untranslatable into English or Russian, they suggest *khöömei*, because the singing is so connected with the Tuvan environment that only a native can understand it, and also *khøj özeeri*, the Tuvan method of killing a sheep. If slaughtering livestock can be seen as part of humans' closeness to animals, *khøj özeeri* represents an unusually intimate version. Reaching through an incision in the sheep's hide, the slaughterer severs a vital artery with his fingers, allowing the animal to quickly slip away without alarm, so peacefully that one must check its eyes to see if it is dead. In the language of the Tuvan people, *khøj özeeri* means not only slaughter but also kindness, humaneness, a ceremony by which a family can kill, skin, and butcher a sheep, salting its hide and preparing its meat and making sausage with the saved blood and cleansed entrails so neatly that the whole thing can be accomplished in two hours (as the Mongushes did this morning) in one's good clothes without spilling a drop of blood. *Khøj özeeri* implies a relationship to animals that is also a measure of a people's character. As one of the students explained, "If a Tuvan killed an animal the way they do in other places"—by means of a gun or knife—"they'd be arrested for brutality."

Tuvan is one of the many small languages of the world. The Earth's population of seven billion people speaks roughly 7,000 languages, a statistic that would seem to offer each living language a healthy one million speakers, if things were equitable. In language, as in life, things aren't. Seventy-eight percent

of the world's population speaks the 85 largest languages, while the 3,500 smallest languages share a mere 8.25 million speakers. Thus, while English has 328 million first-language speakers, and Mandarin 845 million, Tuvan speakers in Russia number just 235,000. Within the next century, linguists think, nearly half of the world's current stock of languages may disappear. More than a thousand are listed as critically or severely endangered—teetering on the edge of oblivion.

In an increasingly globalized, connected, homogenized age, languages spoken in remote places are no longer protected by national borders or natural boundaries from the languages that dominate world communication and commerce. The reach of Mandarin and English and Russian and Hindi and Spanish and Arabic extends seemingly to every hamlet, where they compete with Tuvan and Yanomami and Altaic in a house-to-house battle. Parents in tribal villages often encourage their children to move away from the insular language of their forebears and toward languages that will permit greater education and success.

Who can blame them? The arrival of television, with its glamorized global materialism, its luxury-consumption proselytizing, is even more irresistible. Prosperity, it seems, speaks English. One linguist, attempting to define what a language is, famously (and humorously) said that a language is a dialect with an army. He failed to note that some armies are better equipped than others. Today any language with a television station and a currency is in a position to obliterate those without, and so residents of Tuva must speak Russian and Chinese if they hope to engage with the surrounding world. The incursion of dominant Russian into Tuva is evident in the speaking competencies of the generation

of Tuvans who grew up in the mid-20th century, when it was the fashion to speak, read, and write in Russian and not their native tongue.

Yet Tuvan is robust relative to its frailest counterparts, some of which are down to a thousand speakers, or a mere handful, or even one individual. Languages like Wintu, a native tongue in California, or Siletz Dee-ni, in Oregon, or Amurdak, an Aboriginal tongue in Australia's Northern Territory, retain only one or two fluent or semifluent speakers. A last speaker with no one to talk to exists in unspeakable solitude.

Increasingly, as linguists recognize the magnitude of the modern language die-off and rush to catalog and decipher the most vulnerable tongues, they are confronting underlying questions about languages' worth and utility. Does each language have boxed up within it some irreplaceable beneficial knowledge? Are there aspects of cultures that won't survive if they are translated into a dominant language? What unexpected insights are being lost to the world with the collapse of its linguistic variety?

Fortunately, Tuvan is not among the world's endangered languages, but it could have been. Since the breakup of the Soviet Union, the language has stabilized. It now has a well-equipped army—not a television station, yet, or a currency, but a newspaper and a respectable 264,000 total speakers (including some in Mongolia and China). Yet Tofa, a neighboring Siberian language, is down to some 30 speakers. Tuvan's importance to our understanding of disappearing languages lies in another question linguists are struggling to answer: What makes one language succeed while another dwindles or dies?

TUVAN Language

Russia

Number of Speakers

235,000



[artyštaar]

To burn juniper | to purify

A Tuvan shaman cleanses the house of a deceased relative's spirit using smoke from burning juniper to chase away darkness. The incense fills the room as the family ask the spirits of hearth and home to protect them.



[songgaar]

go back | the future

[burungaar]

go forward | the past

Tuvans believe the past is ahead of them while the future lies behind. The children who flock to this bungee-cord ride outside the National Museum of Tuva look to the future, but it's behind them, not yet seen.



TUVAN

[ezenggileer]

to stirrup | to sing with the rhythms of riding a horse

The words used to describe styles of throat singing—an art among Tuvan herders—perfectly capture their distinctive sounds. Ezenggileer evokes the pulsing rhythms of galloping on a horse.

**[khei-àt]**

air horse | a spiritual place within

Ai-Xaan Oorzhak throat sings and plays the igil, or horse-head fiddle, with bow techniques like “make horse walk.” Singers use the term “air horse” to describe the spiritual depths they draw from to produce the harmonic sounds.



TUVAN

[anayim]

my little goat

Aidyng Kyrgys caresses his newborn baby girl, whom he refers to using this tender term of endearment. The arrival of an infant is cause for a celebration and feasting for the whole family at their tiny log house.

**[ak byzaa]**

white calf, less than one year

Raising sheep, yaks, and goats on the Siberian steppe is so central to Tuvan life that the vocabulary for livestock is embedded with detailed information about each animal's age, gender, fertility, coloration.

AKA

THE RESPECT OF MUCROW



I WITNESSED the heartrending cost of broken languages among the Aka people in Palizi, a tiny, rustic hamlet perched on a mountainside in Arunachal Pradesh, India's rugged northeasternmost state. It is reachable by a five-hour drive through palm and hardwood jungles on single-track mountain roads. Its one main street is lined with unpainted board-faced houses set on stilts and roofed with thatch or metal. Villagers grow their own rice, yams, spinach, oranges, and ginger; slaughter their own hogs and goats; and build their own houses. The tribe's isolation has bred a radical self-sufficiency, evidenced in an apparent lack of an Aka word for job, in the sense of salaried labor.

The Aka measure personal wealth in mithan, a breed of Himalayan cattle. A respectable bride price in Palizi, for instance, is expressed as eight mithan. The most cherished Aka possession is the precious *tradzy* necklace—worth two mithan—made from yellow stones from the nearby river, which is passed down to their children. The yellow stones for the *tradzy* necklaces can no longer be found in the river, and so the only way to have a precious necklace is to inherit one.

Speaking Aka—or any language—means immersing oneself in its character and concepts. “I’m seeing the world through

the looking glass of this language,” said Father Vijay D’Souza, who was running the Jesuit school in Palizi at the time of my visit. The Society of Jesus established the school in part because it was concerned about the fragility of the Aka language and culture and wanted to support them (though classes are taught in English). D’Souza is from southern India, and his native language is Konkani. When he came to Palizi in 1999 and began speaking Aka, the language transformed him.

“It alters your thinking, your worldview,” he told me one day in his headmaster’s office, as children raced to classes through the corridor outside. One small example: *mucrow*. A similar word in D’Souza’s native language would be an insult, meaning “old man.” In Aka “mucrow” means something more. It is a term of respect, deference, endearment. The Aka might address a woman as *mucrow* to indicate her wisdom in civic affairs, and, says D’Souza, “an Aka wife will call her husband *mucrow*, even when he’s young,” and do so affectionately.

American linguists David Harrison and Greg Anderson have been coming to Arunachal Pradesh to study its languages since 2008. They are among the scores of linguists worldwide engaged in the study of vanishing languages. Some have academic and institutional affiliations (Harrison and Anderson are both connected with National Geographic’s Enduring Voices Project), while others may work for Bible societies that translate Scripture into new tongues. The authoritative index of world languages is *Ethnologue*, maintained by SIL International, a faith-based organization.

The researchers' intent may be hands-off, to record a grammar and lexicon before a language is lost or contaminated, or it may be interventionist, to develop a written accompaniment for the oral language, compile a dictionary, and teach native speakers to write.

Linguists have identified a host of language hotspots (analogous to biodiversity hotspots) that have both a high level of linguistic diversity and a high number of threatened languages (see map, page 24). Many of these are in the world's least reachable, and often least hospitable, places—like Arunachal Pradesh. Aka and its neighboring languages have been protected because Arunachal Pradesh has long been sealed off to outsiders as a restricted border region. Even other Indians are not allowed to cross into the region without federal permission, and so its fragile microcultures have been spared the intrusion of immigrant labor, modernization—and linguists. It has been described as a black hole of linguistics because its incredible language variety remains so little explored.

Much of public life in Palizi is regulated through the repetition of mythological stories used as forceful fables to prescribe behavior. Thus a money dispute can draw a recitation about a spirit whose daughters are eaten by a crocodile, one by one, as they cross the river to bring him dinner in the field. He kills the crocodile, and a priest promises to bring the last daughter back to life but overcharges so egregiously that the spirit seeks revenge by becoming a piece of ginger that gets stuck in the greedy priest's throat.

Such stories were traditionally told by the elders in a highly formal version of Aka that the young did not yet understand and according to certain rules, among them this: Once an elder begins telling

a story, he cannot stop until the story is finished. As with linguistic literacy, disruption is disaster. Yet Aka's young people no longer follow their elders in learning the formal version of the language and the stories that have governed daily life. Even in this remote region, young people are seduced away from their mother tongue by Hindi on the television and English in the schools. Today Aka's speakers number fewer than 2,000, few enough to put it on the endangered list.

One night in Palizi, Harrison, Anderson, an Indian linguist named Ganesh Murmu, and I sat cross-legged around the cooking fire at the home of Pario Nimasow, a 25-year-old teacher at the Jesuit school. A Palizi native, Nimasow loved his Aka culture even as he longed to join the outside world. In his sleeping room in an adjacent hut was a television waiting for the return of electricity, which had been out for many months thanks to a series of landslides and transformer malfunctions. After dinner Nimasow disappeared for a moment and came back with a soiled white cotton cloth, which he unfolded by the flickering light of the cooking fire. Inside was a small collection of ritual items: a tiger's jaw, a python's jaw, the sharp-toothed mandible of a river fish, a quartz crystal, and other objects of a shaman's satchet. This satchet had belonged to Nimasow's father until his death in 1991.

"My father was a priest," Nimasow said, "and his father was a priest." And now? I asked. Was he next in line? Nimasow stared at the talismans and shook his head. He had the kit, but he didn't know the chants; his father had died before passing them on. Without the words, there was no way to bring the artifacts' power to life.

LINGUISTICS HAS UNDERGONE two great revolutions in the past 60 years, on seemingly opposite ends of the discipline. In the late 1950s Noam Chomsky theorized that all languages were built on an underlying universal grammar embedded in human genes. A second shift in linguistics—an explosion of interest in small and threatened languages—has focused on the variety of linguistic experience. Field linguists like David Harrison are more interested in the idiosyncrasies that make each language unique and the ways that culture can influence a language’s form. As Harrison points out, some 85 percent of languages have yet to be documented. Understanding them can only enrich our comprehension of what is universal to all languages.

Different languages highlight the varieties of human experience, revealing as mutable aspects of life that we tend to think of as settled and universal, such as our experience of time, number, or color. In Tuva, for example, the past is always spoken of as ahead of one, and the future is behind one’s back. “We could never say, I’m looking forward to doing something,” a Tuvan told me. Indeed, he might say, “I’m looking forward to the day before yesterday.” It makes total sense if you think of it in a Tuvan sort of way: If the future were ahead of you, wouldn’t it be in plain view?

Smaller languages often retain remnants of number systems that may predate the adoption of the modern world’s base-ten counting system. The Pirahã, an Amazonian tribe, appear to have no words for any specific numbers at all but instead get by with relative words such as “few” and “many.” The Pirahã’s lack of numerical terms suggests that assigning numbers may be an invention of culture rather than an innate part of human cognition. The interpretation of

color is similarly varied from language to language. What we think of as the natural spectrum of the rainbow is actually divided up differently in different tongues, with many languages having more or fewer color categories than their neighbors.

Language shapes human experience—our very cognition—as it goes about classifying the world to make sense of the circumstances at hand. Those classifications may be broad—Aka divides the animal kingdom into animals that are eaten and those that are not—or exceedingly fine-tuned. The Todzhu reindeer herders of southern Siberia have an elaborate vocabulary for reindeer; an *iyi düktüg myiys*, for example, is a castrated former stud in its fourth year.

If Aka, or any language, is supplanted by a new one that’s bigger and more universally useful, its death shakes the foundations of the tribe. “Aka is our identity,” a villager told me one day as we walked from Palizi down the path that wound past the rice fields to the forests by the river. “Without it, we are the general public.” But should the rest of the world mourn too? The question would not be an easy one to frame in Aka, which seems to lack a single term for world. Aka might suggest an answer, though, one embodied in the concept of *mucrow*—a regard for tradition, for long-standing knowledge, for what has come before, a conviction that the venerable and frail have something to teach the callow and the strong that they would be lost without.

AKA Language*India***Number of Speakers**

1,000-2,000

**[tradzy]**

a necklace of yellow stone beads

The Aka have more than 26 words to describe beads. Beyond being objects of adornment, beads are status symbols and currency. This toddler will get this necklace at her wedding.

**[shobotro vyew]**

to calculate bride price using twigs

The price for an Aka marriage is negotiated with bamboo sticks. The groom's side lays down a number representing money and gifts, and the bride's family counteroffers. Families can haggle for months using the same sticks.



AKA

[chofe gidego]

is looking at liver

A marriage is not recognized until after the ritual slaughter of a mithan, a type of cattle, when its liver can be read. The verdict: A small spot might signal an accident in the couple's future but otherwise a happy life.



[nichleu-nuggo]

village counselor | wise, compassionate, tolerant

Govardhan Nimasow is a rich man who married eight wives, fathered 26 children, and owns one of the few concrete houses in his village. But his status as a nichleu-nuggo also means he possesses humility and wisdom.

SERI

THE WISDOM OF THE HANT IHA CÖHACOMXOJ



THE ONGOING collapse of the world's biodiversity is more than just an apt metaphor for the crisis of language extinction. The disappearance of a language deprives us of knowledge no less valuable than some future miracle drug that may be lost when a species goes extinct. Small languages, more than large ones, provide keys to unlock the secrets of nature, because their speakers tend to live in proximity to the animals and plants around them, and their talk reflects the distinctions they observe. When small communities abandon their languages and switch to English or Spanish, there is a massive disruption in the transfer of traditional knowledge across generations—about medicinal plants, food cultivation, irrigation techniques, navigation systems, seasonal calendars.

The Seri people of Mexico were traditionally seminomadic hunter-gatherers living in the western Sonoran Desert near the Gulf of California. Their survival was tied to the traits and behaviors of the species that live in the desert and the sea. An intimate relationship with the plant and animal worlds is a hallmark of the Seris' life and of their language, Cmiique Iitom.

Traditionally the Seris, who refer to themselves as the Comcaac, had no

fixed settlements, so their locale of the moment depended on what part of the desert offered the most food, whether the cactus fruit was ripe on the mountainside or the eelgrass was ready to harvest in the bay. Today they reside in two settlements, Punta Chueca and El Desemboque, each a small covey of concrete-block homes set in the vast red, seemingly empty desert beside the gulf. The homes are surrounded by rows of thorny ocotillo canes stuck into the sand, where they've taken root as living fences.

Each day, Armando Torres Cubillas sits in the corner of his open-air, beachside atelier in El Desemboque, his crippled legs curled under him on the sandy ground, carving sea turtles from dark desert ironwood. Occasionally, if he's in the mood, he gazes out over the gulf and eases the artisanship with a song that relates the operatic story of a conversation between the small beach clam *tajjitiquiixaz* and the mole crab. The verse is typical of songs of the Seri tribe: a celebration of nature, tinged with loss.

The Seris see their language as a defining characteristic, a seed of their identity. One Seri told me of a "local expression" that says everyone has a flower inside, and inside the flower is a word. A Seri elder, Efraín Estrella Romero, told me, "If one child is raised speaking Cmiique Iitom and another speaking Spanish, they will be different people."

When American linguists Edward Moser and Mary Beck Moser came to live with the Seris in 1951 in El Desemboque, the group's fortunes were at a low ebb—outbreaks of measles and influenza had reduced their numbers to a couple hundred. It was a propitious time for the

researchers, though, because the group's culture hadn't yet been co-opted by the majority culture surrounding it. Mary Moser served the tribe as nurse and midwife. After many births, per custom, the families gave her a dried piece of their infants' umbilical cords, which Mary kept protected in a "belly button pot." They also gave her their long, eight-plait braids, markers of Indian identity that the men felt compelled to chop off when they traveled to Mexican towns. The braids were like cultural umbilical cords, severed connections between what was old and what was new, evidence of the broken link.

The Mosers had a daughter, Cathy, who grew up among the Seris in El Desemboque and became a graphic artist and ethnographer. She and her husband, Steve Marlett, a linguist with SIL International and the University of North Dakota, have continued the Mosers' study of the Seri language. Today the community has rebounded to somewhere between 650 and 1,000 speakers. They have managed to hang on to their language, thanks in part to their hostility to the majority culture of Mexico. Steve Marlett diplomatically refers to this in one academic paper as "the general lack of cultural empathy between the Seri population and the Spanish-speaking population." In 1773 they killed a priest who tried to establish a mission. The Vatican did not send a follow-up, and the tribe was never Catholicized.

The Seris maintain to this day a proud suspicion of outsiders—and a disdain for unshared individual wealth. "When the Seris become rich, they will cease to exist" is a Seri saying. Having been nomadic, they tend to regard possessions as burdens. Traditionally, when a Seri died, he was buried with his few personal possessions. Nothing was passed down to relatives except stories, songs, legends, instructions.

What modern luxuries the Seris have adopted are imported without their Spanish names. Automobiles, for instance, have provoked a flurry of new words. A Seri car muffler is called *ihisaxim an hant yaait*, or into which the breathing descends, and the Seri term for distributor cap associates it with an electric ray that swims in the Gulf of California and gives you a shock. Such words are like ocotillo canes stuck into the sand: The Cmiique Iitom lexicon is alive, and as it grows, it creates a living fence around the culture.

Sitting in the shade of an awning in front of his house, René Montaña told me stories of an ancient race of giants who could step over the sea from their home on Tiburon Island to the mainland in a single stride. He told me of *hant iiha cöhacomxoj*, those who have been told about Earth's possessions, all ancient things. "To be told" entails an injunction: Pass it on. Thanks to that, we have all become inheritors of the knowledge enshrined within Cmiique Iitom. Folk sayings and often even single words encase centuries of close observation of species that visiting scientists have only begun to study in recent decades.

Cmiique Iitom has terms for more than 300 desert plants, and its names for animals reveal behaviors that scientists once considered far-fetched. The Seri word for harvesting eelgrass clued scientists in to the sea grass's nutritional merits. (Its protein content is about the same as wheat's.) The Seris call one sea turtle *moosni hant cooit*, or green turtle that descends, for its habit of hibernating on the floor of the sea, where the traditional fishermen used to harpoon it. "We were skeptical when we first learned from the Seri Indians of Sonora, Mexico, that some *Chelonia* are partially buried on the sea floor during the colder months," stated a 1976 paper in *Science* documenting the behavior. "However,

the Seri have proved to be highly reliable informants.” The Seris enjoyed eating sea turtles but not leatherbacks, for a simple reason. Leatherbacks, they say, understand their language and are Seri themselves. In 2005 the Seri name for shark, *hacat*, became the official name for a newly discovered species of smooth-hound shark, *Mustelus hacat*. Newly discovered by modern scientists, that is—the Seris had been aware of them for years.

The Seri language is what linguists call an isolate, though a better term might be “sole survivor.” “The Seris are a window into a lost world of gulf peoples,” Steve Marlett says, referring to the extensive family of potentially linguistically linked groups who once inhabited both coasts of the Gulf of California. “Many others are gone,” he says, and worse, gone before they could be documented. One remaining key to the nearly vanished cultures is Cmique Iitom.

ONE WAY TO PRESERVE a language is to enshrine it in writing and compile a dictionary. Linguists both love and fear the prospect of inventing scripts for languages that are usually verbal only. Fear because the very idea of an alphabet changes the language the alphabet is meant to preserve and converts the linguist from observer to activist. David Harrison and Greg Anderson compiled the first Tuvan-English dictionary and are proud of the excitement the volume elicited from native speakers. Steve and Cathy Marlett worked until 2005 finishing a Cmique Iitom dictionary begun by her parents in 1951. Steve remembers the day René Montaña asked, “Can I show you how I write?” and demonstrated a way of dividing words that had not occurred to the linguist before. The revelation meant revising years of work. But Marlett was delighted, because the project was enlisting native Seri speakers

into diagnosing and defining their own language.

The cataloging of vocabulary and pronunciation and syntax that field linguists do in remote outposts helps keep a language alive. But saving a language is not something linguists can accomplish, because salvation must come from within. The answer may lie in something Harrison and Anderson witnessed in Palizi one day, when a villager in his early 20s came with a friend to perform a song for them. Palizi is far removed from pervasive U.S. culture, so it was something of a surprise to the two linguists when the teenagers launched into a full-bore, L.A.-style rap song complete with gang hand gestures and head bobbing and attitude, a pitch-perfect rendition of an American street art, with one refinement: They were rapping in Aka.

Were the linguists dismayed? I asked. To the contrary, Harrison said. “These kids were fluent in Hindi and English, but they chose to rap in a language they share with only a couple thousand people.” Linguistic co-optation and absorption can work both ways, with the small language sometimes acting as the imperialist. “The one thing that’s necessary for the revival of a language,” Father D’Souza told me one day, “is pride.”

Against the erosion of language stands an ineffable quality that can’t be instilled from without: someone’s insistence on rapping in Aka, on singing in Tuvan, on writing in the recently orthographized Cmique Iitom. The Mosers’ and Marletts’ dictionary initiative has given birth to a new profession in Seriland: scribe. Several booklets have been authored by Seris. The Marletts hope the number of volumes will reach 40, one threshold, it is believed, for enticing people to maintain literacy in a language (though some put the number much higher).

The interest is already there. The Marletts had a regular visitor when they were living in El Desemboque, a young boy who would come each day to pore over a Cmique litom booklet. One day he arrived, and the Marletts explained they'd lent it to someone else. "He just burst into uncontrollable tears," Steve remembers.

The spread of global culture is unstoppable. Kyzyl, a capital city that never had a railroad connect it to the rest of Russia, will get one in the next few years. In El Desemboque power lines have been run through the desert to drive an electric pump for a municipal well. And in Arunachal Pradesh a new hydroelectric dam has been completed, ensuring the village of Palizi better access to electricity, refrigeration, and television.

To be involved in the plight of vanishing languages, even just as a journalist, is to contemplate the fragility of tribal life. Since my visits over the past two years to Palizi and Kyzyl and Seriland, Efraín Estrella died of pancreatitis, and young Pario Nimasow, who unwrapped his father's shaman's kit for me and wondered what its contents might mean, was killed in a landslide. A week after I wrote the paragraph describing Armando Torres's daily singing, I received an email from Cathy Marlett. "Sad news," its subject line read. Torres had died of a heart attack at 67, in his place by the beach in El Desemboque.

Their mortality is a reminder of the mortality of their cultures, an intimation that with each speaker's death another vital artery has been severed. Against that—against the possibility that their language could slip away without alarm or notice—stands a proud perseverance, a reverence for the old, an awareness that in important ways a key to our future lies behind us. That, and an insistence that the tongues least spoken still have much to say.

SERI Language

Mexico

Number of Speakers

650-1,000



[ziix quih haasax haaptxö quih áno cöcacaaxaj]

one who strongly greets with joy/peace/harmony

There is no greeting among the Seris akin to a handshake or wave. But Josué Robles Barnett demonstrates a gesture that used to be performed when arriving in a strange community to convey you meant no harm.



[hant iiha cöhamxoj]

ones who have been told the ancient things

She's blind and nearly deaf, but Isabel Chavela Torres still passes on traditional knowledge. The Seri names for species in the Sonoran Desert and Gulf of California reveal behaviors scientists have only recently begun to discover.



SERI

[hepem cöicoit]

one who dances like the white-tailed deer

Chavela's grandson Jorge Luis Montaña Herrera shakes gourd rattles and assumes the identity of a deer. Just as his grandmother once sang him traditional melodies, he now wants to teach the deer dance to Seri children.

**[ziix hacx tiij catax]**

thing that moves on its own

As modern inventions like cars enter their world, the Seris tend to adapt their language rather than import Spanish words. Erica Barnett uses an abandoned car as a hothouse to grow mangroves to replenish an estuary.



SERI

[atcz | azaac]

daughter of a parent's younger sibling | daughter of
a parent's older sibling

The Seris have more than 50 terms for kinship relationships, such as between these two cousins, many specific to the gender and birth order of the relative. A woman uses a different word for father than a man does.

**[Miixöni quih zó hant ano tiij?]**

Where is your placenta buried?

This is how the Seris ask, Where are you from? Those who were born before hospital births know the exact spot where their afterbirth was placed in the ground, covered in sand and ash, and topped with rocks.

LAST SPEAKERS



EUCHEE Language

Oklahoma

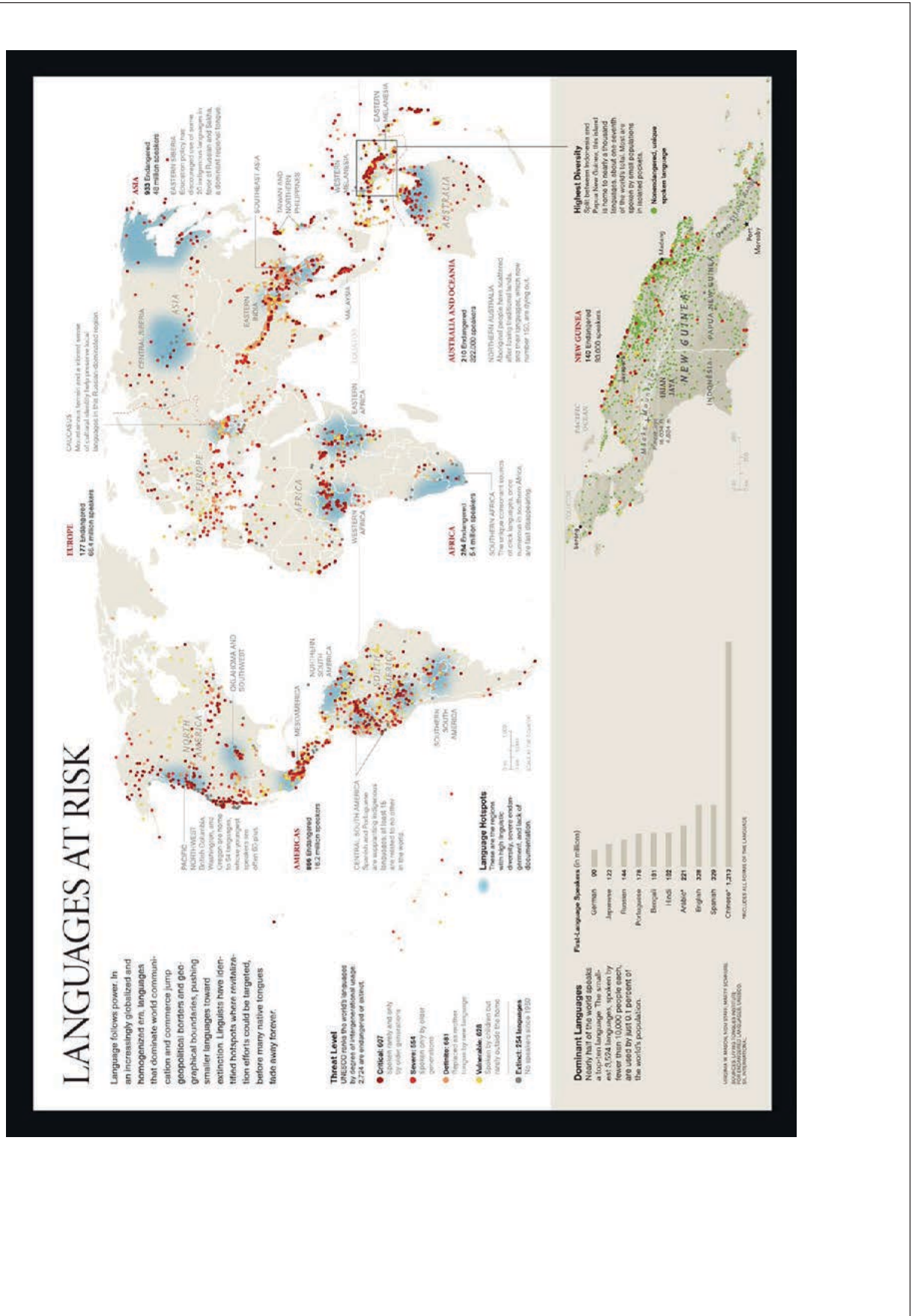
K'asA Henry Washburn, 86, is one of only four fluent speakers of Euchee left. Every day he drives ten miles from his home in West Tulsa to the Euchee Language House, where children are learning their native tongue. As a result, Euchee students sometimes get in trouble again for speaking their ancestral language in school. Richard Grounds, director of the project that is recording Washburn's memories, calls him a "living dictionary."



WINTU Language

California

Caleen Sisk is the spiritual leader and tribal chief of the Winnemem Wintu tribe—and a last speaker of the language that sustains her people's identity. For more than a hundred years tribal members have been fighting with the U.S. government over their territory along the McCloud River, abutting Mount Shasta, which they consider their birthplace. Loss of land and loss of language are connected, says Sisk. "This land is our church."



“Chapter XVI: The Life of the Peasants,” from *Life on a Mediaeval Barony* (Harper & Brothers, 1922)

Chapter XVI: The Life of the Peasants.



THUS have been seen Messire Conon and his familiars in their pleasures, feasts, and wars. The gentle folk seem to monopolize all the life of the barony. Yet at best they number scarce one in a hundred of all the Christians who dwell therein. Assuredly the poor and humble seem much less interesting and command less attention. They have no splendors, no picturesque fêtes or feuds. A life of monotonous poverty seldom detains the chronicler; nevertheless, it is time to visit the village of huts so often seen spreading beyond the bridge to the west of the castle.

The St. Aliquis peasants are told that they have naught whereof to complain. They have a kindly seigneur who “renders justice.” Since the Foretvert feud, no war has ravaged them. The saints of late have sent neither short crops nor pestilence. To repine against their lot is ingratitude toward God.

There is abundant class consciousness in the Feudal Ages. Clerks, knights, peasants—every man knows to which of the three great categories of humanity he belongs, and acts accordingly.

A monkish preacher¹ pictures the world as a vast body whereof the clerics are the eyes, for they show

¹ This cleric, Jacques of Vitry, may have written a few years later than the presumable date of this narrative, but it represents entirely the orthodox viewpoint of A.D. 1220.

Life on a Mediaeval Barony

to all men the way to safety; the noble knights the hands and arms, for God orders them to protect the Church and the weak and to promote peace and justice; finally the common people (*minores*) form the lower parts of the body—it is their business to nourish the eyes and limbs. More bluntly still, as long ago as about A.D. 1000, Bishop Adelberon of Laon had divided mankind into two great divisions—first, the clergy who prayed and the seigneurs who fought; second, the toilers; adding that “to furnish all with gold, food, and raiment—such is the obligation of the servile class.”

Since these classes are clearly ordained of Heaven, to rebel against one’s status is manifestly questioning the justice of Providence—a damnable impiety.

Few of the St. Aliquis peasants ever dream of being anything but villeins. They regard gentlefolk somewhat as good Christians regard angels—as beings of another sphere. All they hope for is kindly treatment and modest prosperity within the limits providentially assigned them. Therefore, they are not too unhappy.

If we go up and down France we shall find the rural population decidedly dense.¹ One little village usually follows another closely and every collection of huts swarms with human bipeds. There are, indeed, vast forests and marshes which might with better management be put under the plow, but the extent of arable land is great. Heaven surely loves the peasants, it has made so many of them. Seemingly their number is limited merely by the question of food supply.

¹ It has been estimated that the rural population of France in the thirteenth century was almost as great as in the twentieth. There was probably a decided falling off, in the fourteenth century, thanks to the Black Death (1348) and the ravages of the Hundred Years’ War.

Danger of Great Famines

If the condition of the peasantry often seems bad, it is comforting to know that for the last two centuries it has been improving. Not for many years have matters



GROUP OF PEASANTS AND OF SHEPHERDS
(Twelfth century), from a window in the cathedral of Chartres.

in the St. Aliquis region been as they were in some parts of France during the terrible famine of 1030–32. At that time we are told that the poor devoured grass, roots and even white clay. Their faces were pale, their bodies lean, their stomachs bloated, “their voices thin and piping like the voice of birds.” Wolves came out of forests and fed on children. Strangers and travelers were liable to be waylaid in solitary spots and killed simply that they might be eaten. Near Macon a “hermit” at last was seized who had lured wayfarers to share the hospitality of his cell. The skulls of forty-eight victims were there discovered, after which they burned the wretch alive.

You can go on multiplying stories about famines—

Life on a Mediaeval Barony

how human flesh at times was sold in markets; how starving children were lured by the offers of a bit of food to places where ghouls could kill and feast on them; how a measure of corn rose to sixty sous in gold; and how even the very rich “lost their color.” These days, thanks be to the saints, seem disappearing; yet the danger of pinching hard times is still a real one, even in fortunate St. Aliquis.¹

The peasants of Messire Conon are free. The serfs of the barony had been manumitted about a hundred years earlier, by a baron who (after an extremely iniquitous life) was admonished on his deathbed by his confessor that he must do something extraordinary for the salvation of his soul.² As a result the St. Aliquis peasants were no longer bound to the soil and could quit the seigneurie—as serfs assuredly could not do. They could also marry any women they wished without asking their lord’s consent or paying him a fee. They could bequeath their goods without having him sequester an outrageous part. All this, of course, improved their status, yet they were still subject to numerous imposts in money and kind, and to various forms of forced labor. Although they had now the legal right to quit the barony, only with the greatest difficulty could they sell their little farms and chattels thereon, so they could take a decent share of their possessions elsewhere; and

¹ By 1220 these wholesale famines were really becoming matters of tradition, thanks to better transportation and better methods of agriculture. Very lean years, almost ruinous to the peasantry, remained, however, as extremely grim possibilities.

² In Brittany, and, somewhat less generally in Normandy, most of the peasants at this time were free. In Champagne and central France there were still so many serfs that very possibly the peasants of St. Aliquis were more fortunate than the majority of the villeins on neighboring baronies. The advantages of the free peasants over the serfs have, however, been somewhat exaggerated.

Exploitation of Villeins

if they wandered to distant parts, the local authorities were likely to call them “masterless men” and assume that if they had forsaken their old lord they must somehow be criminals.

Nevertheless, it is much better to be a free peasant than a serf. The majority of the French lower classes are now becoming free, although in other Christian lands, notably Germany, serfage will prevail for a weary day hereafter.

But even though one becomes free, he is a villein still. The taint of ignoble blood clings like a shirt of pitch, even after achieving prosperity and wealth. Knightly opinion is expressed by that great troubadour, Bertran de Born: “I love to see the rich churl in distress if he dares to strive with nobles. I love to see him beg his bread in nakedness.”

Even a well-disposed lord looks on a peasant largely as a source of income. In time of peace the taxes and forced labor squeezed out of him yield that which presently turns into destrers, silvered hauberks, furs, hawks, fair dames’ luxuries, dowries, adubbements, tourneys. In time of war he exists to be pillaged and massacred, in order to impoverish his master by ruining the latter’s revenues. The burghers of the towns are a little more respected. Their industrial products are needful. They can better protect themselves. But the richest syndic of a commune cannot really hold up his head socially with the unknighthed bachelor who drags out life in a tumble-down manor house.

At every turn the peasant finds himself exploited. He must pay a direct tax supposedly proportioned to the size and yield of his farm. That is only the beginning. When his wife has bread to bake, it must be taken to the lord’s oven. One loaf in so many goes as the fee.

Life on a Mediaeval Barony

The flour must be ground up in the lord's mill—again for a fee. The grapes must be pressed out in the lord's winepress. The sheep must be driven into the lord's sheepfold every night, that he may get the manure. Every dispute must be arbitrated before the lord's provost or the great man himself—more fees. In short, the whole régime aims to compel the peasant to go to his seigneur for everything he needs, so that he will have extremely little business to transact away from the seignury. Doubtless it is a convenience often to find things commonly needful always at hand. There is a certain return for many of the exactions. But the seigneur does not act out of benevolence. If the peasants wish, for example, to set up their own ovens, they must pay the seigneur the equivalent of the baker's fees of which he is deprived. If they then wish to bake their own bread, he is now quite indifferent.

Besides the imposts and numerous fees (*banalités*) the peasants owe the *corvées*, payments by labor. A large part of every seignury is "domain land"—for the lord's own personal use. The peasants are obliged to give a certain number of days to keep this plowed and tilled, mow the meadows, bring in the hay, dress the vines. They must also see that the castle has its firewood and fodder; clean out the moat; help keep the fortifications in repair; and assist on many extraordinary occasions.¹ For this they get no pay, although they may be given their rations during the days of labor.

¹The list of curious *corvées* required of peasants on various seigneuries is a long one. On one fief they were expected to beat the water of the castle moat to stop the noise of the frogs whenever the mistress was sick. Or on certain specified occasions they had to perform some absurd service: to hop on one leg, to kiss the latch of the castle gate, go through some drunken horseplay in the lord's presence, or sing a broad song in the presence of his lady.

Oppressive Seigniorial Officers

In time of war they do almost everything from helping to defend the castle to marching on offensive campaigns as part of the ban—serving, as we have seen, as grooms, baggage attendants, diggers, and engineers, and also as the despised, but sometimes useful, infantry pikemen.

Such are the burdens of the St. Aliquis peasants. They burn holy candles of thankfulness, however, that Baron Conon does not multiply their troubles by intrusting the collection of his imposts and the administration of his forced labor to outrageous officers. Sire Macaire, the provost, is harsh toward real offenders and strict in exacting the last *sol* or sheaf in just debts, but he is no blackmailer, as is Foretvert's general factotum. In old Baron Garnier's day, of course, there had been a provost who not merely levied abominable imposts, diverting a share thereof toward his own pocket, but who would accuse poor men falsely of theft and then take bribes for condoning their alleged offenses, all the time that he was dividing the profits of real bandits whom he protected.

Even more obnoxious can be the forester who controls the hunting preserves and grazing grounds. He decides how the peasants' pigs may be turned out in the oak forests, how and when firewood may be cut, and he battles incessantly with the multitudinous poachers. A few years ago even Conon was deceived by a fellow in his employ, one Maître Crispin. He was "a very handsome man with fine carriage and well armed with bow and sword." No one could *cong * more gracefully to Madame Adela, or do more to help messire to discover a great boar, but all the while he was filling his own chest. For example, he seized lame Georges' oxen on the pretext that he had cut three oaks and a birch in the seigneur's forest—yet he would forget the crime if

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Georges could find him one hundred sous! Fortunately Sire Macaire discovered the evil ways of his lieutenant, and Conon, exceedingly incensed, had the smooth Crispin turned over to Maître Denis and his halter after abrupt formalities. The present forester, taught by example, is more honest, although of course, all the real poachers curse him.

A great part of the peasant's time is spent neither in working nor in resting, but in walking. Few are so lucky as to have all their land in a single compact plot. Even a rather poor peasant has his farm scattered in several tiny holdings, possibly at the four quarters of the neighborhood. When a peasant dies, his children all divide the paternal estate, and if a separate piece of ground cannot be provided for each heir, some lots must be subdivided smaller still. The St. Aliquis lands



PEASANTS AT WORK

From a manuscript of the thirteenth century (Bibliothèque nationale).

thus present a curious sight—innumerable little parcels scattered everywhere, each carefully fenced off and each growing its own separate crops. Meantime their owners begin in the morning toiling with their heavy mattocks, on one of their holdings, then on to the next, and so on until sundown. Thus they trudge several miles, and yet are seldom far from their village, whither they must all return at dusk.

Primitive Agricultural Methods

Men of more fortunate days will be astonished when they survey the agricultural methods of even the least stupid peasants. Everything is according to traditions—"so it was with our fathers." In the abbey library there are some Latin books about agriculture. They deal with conditions in ancient Italy, however, not feudal France. The most benevolent monk hardly dreamed of examining his Cato or Columella to learn how to better the lot of the peasantry, though in fairness it should be said that the abbey farms enjoy on the whole a much superior cultivation. Not all peasants can own plows; they borrow or hire from their neighbors, or break the ground with the clumsy mattocks. What plows exist have only wooden plowshares. The wheat in St. Aliquis is beaten out by flails, although a little farther south it is trodden out by cattle. The soil is often impoverished, and it is usual to leave one-third fallow all the time to recuperate. Such a thing as "rotation of crops" is still a matter of vague talk save on some of the monastery lands.

Under these circumstances, even in the best of years, there is not much surplus of food. A short crop means misery. Men pessimistically expect a famine on the average of one in every four years. If there has not been one of late in St. Aliquis, it is because the saints are rich in mercy. "In 1197 a countless throng died of hunger," significantly wrote a chronicler in Rheims. Naturally, the villeins seldom get enough ahead to be able to learn the practices of thrift. If the year has been good, with an extra supply of corn in the barns, and plenty of pigs and chickens fattening, the winter will be spent in gorging and idleness. By spring the old crop is exhausted almost to the seed corn; then perhaps the new crop will be a failure. The next winter these

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same peasants may be glad to make a pottage of dead leaves.

Lame Georges, who had his oxen sequestered, is, despite his misfortunes, one of the most prosperous peasants in the village. He limps because in his youth a retainer of Baron Garnier's twisted one of his feet while trying to extort money. Georges is really only forty-five years old, but to see his gray head, gnarled face, and bent back you would think him sixty. His wife Jeanne is four years younger than he, but looks as aged as her husband. "Old Jeanne," the children call her. The pair have been blessed with at least fifteen children, but four of these died in childbirth, and five more before they could grow up. The other six are, all but the youngest, married already and Jeanne has been a grandmother for several years.

Georges' house stands near the center of the village. To reach it you pick your way down a lane usually deep in mud. In front of each fenced-in cottage there is an enormous dungheap, beloved by the hens and pigs, which roam about freely. Georges' one-story dwelling is an irregularly built, rambling structure of wood, wattles, and thatch, all of dirty brown. This "manse" stretches away in four parts. The rearmost contains the corn cribs, the next mows for hay and straw, then the cattle sheds; and nearest, and smallest, the house for the family.

Pushing back the heavy door, after lifting the wooden latch, one enters a single large room; the timbers and walls thereof are completely blackened by soot. There is really only one apartment. Here everything in the household life seems to go on. The floor is of earth pounded hard. Upon it are playing several very dirty, half-naked children, come over to visit "grandmother,"

A Peasant's House

and just now they are chasing two squealing little pigs under the great oak table near the center. One makes no account of a duck leading her goslings in at the door in hopes of scraps from the dinner. A hen is setting on eggs in a box near the great fireplace.

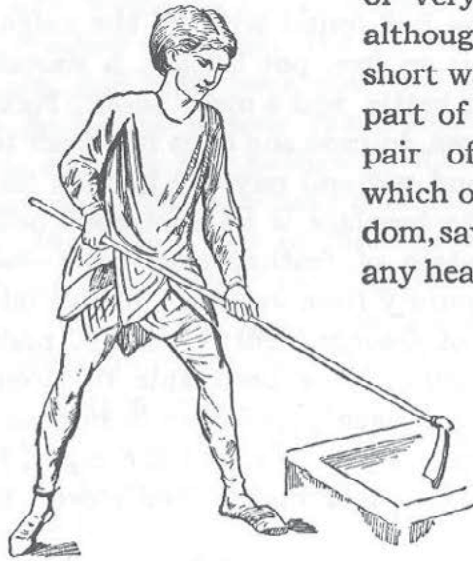
Jeanne has just kindled a lively fire of vine branches and dry billets. She is proud that her house contains many convenient articles not found with all the neighbors. By the fireplace is an iron pot hanger, a shovel, large fire tongs, a copper kettle, and a meat hook. Next to the fireplace is an oven, in case she does not wish to use that at the castle and yet will pay the baron's fee. On the other side of the fireplace is an enormous bed, piled with a real mountain of feather mattresses—we do not discuss their immunity from vermin. In this one bed a goodly fraction of Georges' entire family, male and female, old and young, have been able to sleep; of course, with their heads usually pointing in opposite directions. If a stranger chances to spend the night, it will be hospitable to ask him to make "one more" in that selfsame bed!

If the goodman takes us about his establishment we shall find that, in addition to various stools and benches, he owns a ladder, a mortar and pestle for braying corn, a mallet, some crudely shaped nails, a gimlet, a very imperfect saw, fishing lines, hooks, and a basket. He is fortunate enough also to own a plow, and, in addition, a scythe, an iron spade, a mattock, a pair of large shears, a handy knife, and a sharpening stone. He has replaced the stolen oxen with another pair and owns a two-wheeled wagon with a harness of thongs and ropes. Besides the oxen, there are three milch cows in his barn, and he has a hennery and pigpen. The place seems also to abound with long, lean cats, very wild, who gain a

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living by hunting the numerous rats and mice which lurk in the dense thatch of the roofs.

Georges himself wears a blouse of dirt-colored cloth, or sometimes of sheepskin, fastened by a leathern belt. In cold weather he has a mantle of thick woolen homespun, now also dirt color, to his knees. He has a pair



A LABORER, THIRTEENTH CENTURY
Restored by Viollet-Le-Duc, from the manuscript of Herrade of Landsberg.

of very heavy leathern boots, although not seldom he goes on short walks barefoot. The lower part of his body is covered by a pair of loose woolen trousers which once were blue. Very seldom, save in storms, does he wear any headdress; then he produces

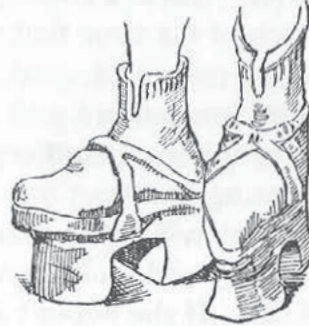
a kind of cap of the same dirty woolen as his coat. As for gloves, he never wears them except when hedging. Jeanne's costume is much the same, with a few changes to make it suitable for women.

In her chest she has, however, a green bliaut of Flanders wool made somewhat in imitation of those she has seen at the castle, and it even is beautified with red and purple embroidery. This bliaut she wears with pride on great festival days, and in it, despite the envious hopes of her daughters and daughters-in-law, she expects at last to be buried.

Georges' house is considerably better than many others. Some of his neighbors live in mere cabins that are barely weather tight. They are made of crossed laths stuffed with straw or grass, and have no chimney.

Very Poor Peasants

The smoke from the hearth escapes through a small hole in the roof (where the thatch is very liable to take fire) or merely through the door. None of these houses has glass windows. Georges fastens his few openings with wooden shutters, but poor Alard near by has to close his apertures by stuffing them up with straw, if it is too cold to leave them open. Alard, too, is without a bed. His family sleep on thin pallets of straw laid on the ground, with a few ragged blankets. There are plenty of peasants who have not even the straw.



PEASANT SHOES
Twelfth century (abbey church
of Vézelay)



A REAPER
From the doorway of the cathedral of
Amiens.

Alard inevitably has no cows, no oxen or cart, no plow, and only a few rude tools. He and his are barely able to satisfy the provost's men by grinding field labor, and have still enough grain laid up to carry them till the next harvest. If it is a little too dry, a little too wet, if, in short, any one of a number of untoward things happen, by next spring he, with his bent and bony wife and his five lean children, will all be standing at the castle or abbey gate with so many other mendicants to cry their "Bread! For the love of Christ, a little bread!"

Life on a Mediaeval Barony

The peasants marry as early as do the nobility. Of the moral condition of many of them it is best to say little. Good Father Étienne, the parish priest, spends much of his time first in baptizing infants of unacknowledged paternity, and then in running down their presumptive fathers and forcing the latter to provide for their children's upkeep. But a girl can often indulge in amazing indiscretions and later find some self-respecting peasant willing to marry her.

Every girl looks forward to her marriage as the climax of life. If she hopes to find a husband in the coming year, she will dance around a bonfire, then cast some pins into



A MARRIAGE IN THE
THIRTEENTH CENTURY

From a manuscript of the
Bibliothèque nationale
(Bordier et Charton).

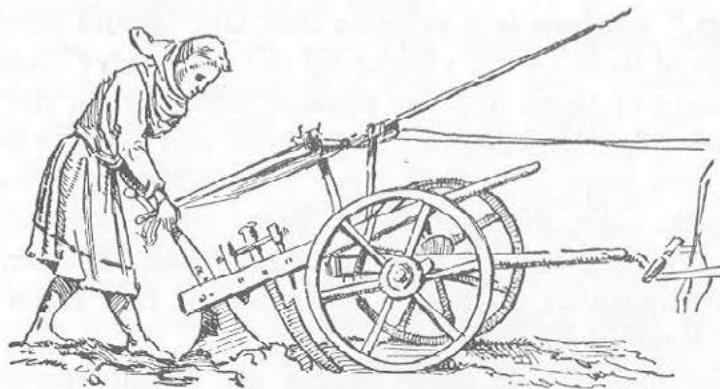
a bubbling fountain. If these are thrown to the surface it is a sign the right swain will come along. When drawing water from a well, if she can throw into it an egg cracked upon the head of some companion, she can see in the water the image of her future husband. As for the young men, when one of them decides he wishes to marry a certain girl, he often comes to her parents, presenting a leathern bottle of wine. If they drink of the same his suit is accepted. However, if he is uncertain of his reception by the maiden herself, he invites himself to dinner at her home. If at the end she serves him with a dish of walnuts, it is a clear token that he is rejected. He had better slink away.

On the wedding day, if the bride has always been sage and modest, the neighbors present her with a white hen, but her mother gives her a piece of fine cloth, to make a gala dress which will serve ultimately for a

Hard Toil and Ignorance

shroud. At the ceremony itself the great question is, "How will the wedding ring slip on?" If easily the bride will be docile. If it goes on tightly she will rule her husband!

The peasants need every kind of public and private holiday. On ordinary days toil begins at gray dawn and usually continues until dusk. There are no eight-



A PLOW

Restored by Viollet-Le-Duc, from a manuscript of the thirteenth century at the Seminary of Soissons.

hour laws; even the "nooning" is short, although sometimes there is time taken out in hot weather for a siesta during the afternoon. The women labor in the fields as hard as do the men. Children begin weeding, digging, and carrying when very little. Their help is so important that many peasants look on large families as assets of so much unpaid field labor, rather than as liabilities which they must clothe and feed until the children reach maturity. Education is almost unknown. One or two very bright boys from the village somehow have been caught by the churchmen and trained for the priesthood. There is even a story of a lad born in a neighboring seignury who thus rose to be a bishop! But such cases are very

Life on a Mediaeval Barony

exceptional. In the whole village by St. Aliquis, Father Etienne is the only person who understands the mysteries of reading and writing, except two assistants of the provost, who have to keep accounts for the baron.

It is very hard for great folk to understand such teachings of the Church as that "all men are brethren." "Doubtless it is true," Adela and Alienor have often told each other, that "God created man in His own image," but how is it possible that God should have the image of most of the villeins on the seigneurie? Are not so many of them like the peasant described in the epic "Garin"? "He had enormous hands and massive limbs. His eyes were separated from each other by a hand's breadth. His shoulders were large, his chest deep, his hair bristling, and his face black as a coal. He went six months without bathing. Nothing but rain water had ever touched his face."

The manners of these people are equally repulsive. Countless ballads as well as monks' sermons and treatises represent your typical villein as incessantly discontented, scolding about the weather, which is always too wet or too dry, treating his wife like an animal, hauling her about by the hair. Lately at the castle a jongleur told this anecdote: "A certain peasant showered his wife with blows on principle. 'She must have some occupation,' said he, 'while I work in the field. If she is idle she will think of evil things. If I beat her she will weep the whole day through, and so will pass the time. Then when I return in the evening she will be more tender.'" According to other stories, however, many peasants are clever, aggressive, and insolent—well able to care for themselves.

The castle folk and the burghers are none too careful in sanitary matters, but even to them the peasants are

Filthy Habits of Peasants

disgustingly filthy. They relate in Pontdebois this story: "Once a villein, leading some donkeys, went down the lane of the perfumer's shops. Instantly he fainted at the unaccustomed odor. They brought him to, however, by holding a shovel full of manure under his nose." Another story (told at the monastery) has it that the devil has refused to receive more villeins into hell because they smell so vilely!

In the village you soon find many typical peasant characters, and nearly all of them are bad. There is the surly fellow who will not even tell a traveler the way. There is the malcontent villein who mutters enviously whenever he sees a knight riding out hawking; there is the mad fool who reviles God, saints, Church, and nobility; there is the talkative villein who is always arguing bad causes before the provost's court and inciting his neighbors to senseless litigation, there is the honest simpleton who wandered up to Pontdebois and got his pockets picked while gaping at the sculptures on the portal of the cathedral; finally, there are the misers, the petty speculators in grain (who pray for a famine), and all the tribe of poachers. Certainly there are also a great number of hard-working, honest folk who bow respectfully when Messire Conon rides by and who pay their taxes without grumbling. Such give prosperity to the seignery; but it is the rascals who ever thrust themselves into prominence.

The St. Aliquis villeins seem doltish and dirty enough, but they are nothing to those existing in Flanders. Some monks have recently returned thence after doing business for their order. They tell with horror that in summertime Flemish peasants are seen around their villages, taking their ease, with no more clothes on than when they were born. When the monks remonstrated,

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the rough answer was: "How is this your business? You make no laws for us." It is pitiful (say the monks) that any seigneur should tolerate such things on his fief, for the peasants are such sodden creatures they cannot of themselves be expected to know better.

If the knights exploit the peasants, the clergy do so hardly less. It is notoriously hard for the bishop's tithe collector to secure the quota of pigs, hens, eggs, wheat, vegetables, etc., which everybody knows that the villein owes to the Church after or upon the same time he satisfies the collectors for the baron. Indeed, certain impious villeins complain, "The tithe is worse than the imposts and the *corvées*." The monkish preachers have to be constantly threatening these sinners who pay their tithes slowly. The Church tithe is the property of God. "It is the tax you owe to God, a sign of his universal dominion." Those who withhold it not merely imperil their souls, but God will send them "drought and famine," punishing them alike in this world and the next.

Villeins too often wickedly insist on working on Sundays and holy days. The peasants complain there are so many saints' days that it is hard to keep track of them, but if only they would go to Church on Sundays when the priest announces the next holy days they could avoid this sin. Worse still are the peasants who, when they see their fellows going dutifully to mass, hide under the hedges, then slip away to rob the unguarded orchards.

It seems certain, therefore, that God has no such love for villeins as he has for gentle knights and their dames. The knights display their superiority by always reminding their peasants of their condition. With some barons, to flog their villein for most trifling offenses is about as common as for them to eat their dinners. Even Conon

Gross Oppression by Knights

has plenty of use for his riding whip. Unless the blows are very brutal the average peasant takes this as all in the day's work. He merely trades out his own blows upon his wife and children. Indeed, it is commonly said that most villeins are so numb mentally they never can comprehend the simplest orders unless they are driven home with stripes. In time of war the fate of the peasants is, as we have seen, far worse than this. Whatever a feud means to the contending parties, to their villeins it means houses and crops burned, fruit trees girdled, young girls dragged off to a life of infamy, and probably the massacre of many peasants in cold blood. One of the reasons the nobles delight so in war is because it is seldom that they have to endure its real anguish and horror; but in the churches the non-nobles pray, "*Grant us to peace*" quite as fervently as they beseech, "Save us from famine"—and with equal justice.

The monkish preachers who make a business of scolding sometimes denounce high-born oppressors of the villeins. One monk thus cries out, "All that the peasant amasses in one year of stubborn toil, the noble devours in an hour. Not content with his lawful revenues, he despoils them by illicit exactions. As wolves devour carrion while the crows croak overhead, awaiting their share of the feast, so when knights pillage their subjects the provosts [their agents] and others of the hellish crew rejoice at the prospect of devouring the remainder." Or again: "Ye nobles are ravening wolves; therefore shall ye howl in hell," for you "despoil your subjects and live on the blood and sweat of the poor." (Jacques of Vitry.) Nevertheless, the selfsame preachers accuse the peasants of the cardinal sins of avarice and of shunning labor. Only rarely are the villeins comforted by being told that if they work faithfully and bring up

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a proper family they are morally on equality “with a cleric who chants all day in a church.”

On the St. Aliquis fiefs, and, indeed, on many others, these grosser abuses do not obtain, but nowhere are the villeins exempt from one evil which they must meet with dumb resignation—the seigneurial hunts.¹ Conon and his guests never hesitate at going with horses and hawks or hounds straight across plowed and seeded fields or even over standing grain. This is the lord’s absolute right, and protest is impossible. The hunters, too, are entitled, if far from home, to stop at the peasants’ huts and demand food and fodder, perhaps for a large party. If payment is made, it is merely out of charity. Greater evils still may come from the depredations of the wild game, if the fields are close to the hunting preserves. Villeins cannot harm any deer nibbling the young sprouts. They can only scare them away—and the cunning creatures soon grow daring. A wild boar can root up a dozen little farm plots before the baron can find leisure to chase him down. Upon some fiefs the peasants can arrange to pay an extra fee to their lord, in return for which he keeps only rabbits near their fields; but the hunt of a single rabbit, if the flying wretch doubles in among the corn, may ruin a family.

On the other hand, the penalties for poaching, for “killing messire’s game,” are terrible. It is probably safer on St. Aliquis’—as on any other fief—to risk killing a traveler than killing a fawn or even a hare. The law is pitilessly enforced by the foresters. Maitre Denis will tell you he has hanged more stout fellows for poaching than for any other two crimes put together.

Do the villeins ever revolt? Sometimes, when they are driven to desperation by extreme misery; when they

¹ See page 67.

* Refers to page 67 in original work.

Useless Peasant Revolts

find a clever leader; when circumstances are peculiarly favorable. Then may come the sudden burning of manor houses and small fortalices; the massacre of their inmates; and other brutish deeds of tardy retaliation. The rebels are likely to boast, as did some insurgent peasants in Normandy in the eleventh century: "We have been weak and insane to bend our necks for so long. For we are strong-handed men, and solider and stouter limbed than the nobles will ever be. For everyone of them there are a hundred of us!"

Such revolts always have a single end. The ignorant peasants submit to no discipline. They cannot use the knight's weapons if they capture them. They cannot organize. If they seize a castle, the liquor in the cellars lays them out helpless through a week of orgy. The seigneurs instantly rally and with their great horses hunt down the rebels as creatures worse than wolves. The vengeance then taken on the insurgents is such that every ear that hears thereof must tingle. Perhaps along a league of roadway a corpse will be swinging from every tree. Such measures effectively discourage rebellion save under most exceptional circumstances. Even with atrocious seigneurs it is usually best to bow to the will of God and merely to pray for deliverance.

Georges' and Alard's mental horizons can be imagined. They have on rare occasions been as far as Pontdebois, although some of their neighbors have passed a lifetime without even that privilege. They have only the most limited, one might say only the most animal, hopes and fears. Their ideas of such things as the king's court, Paris, and the various Christian and Infidel lands are a jumble of absurd notions. "Religion" means a few prayers, a few saints' stories, as told in the church, the miracle plays at Christmas, and a fear lest

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by failing in proper respect to monks and priests they will be eternally tormented in worse torture chambers than old Baron Garnier's.

The villeins, of course, have their own rustic holidays, full of rough sports—wrestling, throwing weights, archery, and also cockfighting and bull baiting. The best of entertainment is when two blindfolded men, each carrying a cudgel, try to kill a goose or pig let loose in an inclosure. The whole village roars to see them belabor each other. During the wedding festivities, to show their dutiful esteem for Alienor and Olivier, the peasants had arranged a special ceremony in their honor. Four blindfolded men were led about the neighborhood, preceded by two men, one playing an oboe, the other carrying a red banner whereon a pig was painted. After this noisy merrymaking a real pig was produced, and before an august company of most of the castle folk the four champions “attacked the pig.” They hit one another so hard, that one was picked up almost dead. The pig became the property of the villein who had managed to pound the life out of the creature just as in mercy Alienor was about to beg that the contest end.

Despite grievances and grumblings, the average peasants are loyal, somewhat after the manner of dumb dogs, to their seigneurs. Conon and Adela command the real affection of their villeins because of acts of charity, but even Baron Garnier had been treated with an astonishing faithfulness. Many a knight has owed his life or honor to humble dependents whom he has not treated so well as his horses or hounds. It is the toiling thousands in the little thatched huts that make possible the wedding feasts, the adubgements, the tourneys, and the spectacular battles. Some day the exploitation will cease—but not in the thirteenth century.

Self Portrait Between the Borderline of Mexico and the United States, 1932

Frida Kahlo



Erich Lessing/Art Resource, NY

The Secret Life of Plants

From *New Scientist*, March 26, 2011

By Ferris Jabr

EVERY autumn swarms of dusty grey moths engulf the mountainside birch forests of northern Scandinavia, laying their eggs on twigs so that, come springtime, the newly hatched larvae can feast upon budding leaves. It looks like a battle that the trees, with no natural defences, are doomed to lose, but some have a secret weapon. They form an alliance with a neighbouring plant, a kind of rhododendron, borrowing wafts of its volatile insecticides as a sort of olfactory camouflage. “This kind of interaction has never been observed in the field before,” says Jarmo Holopainen at the University of Eastern Finland in Kuopio, who made the discovery (*New Phytologist*, vol 186, p 722). His study is one of the latest to demonstrate the unexpectedly complex relationships between plants.

We’ve known for some time that plants respond to one another, but only now are we realising how subtle and sophisticated their interactions can be. Plants continually eavesdrop on each other’s chemical chatter — sometimes sympathetically, sometimes selfishly. Some plants, like the Scandinavian rhododendron, assist their neighbours by sharing resources. Others recognise close relatives and favour them over strangers. And at least one parasitic plant homes in on its host’s telltale chemical scent (see “Scent of a victim”, page [59]).

“Plants don’t go out to parties or to watch the movies, but they do have a social network,” says Suzanne Simard, a forest ecologist at the University of British Columbia in Vancouver, Canada. “They support each other and they fight with each other. The more we look at plant signalling and communication, the more we learn. It’s really incredible.”

Since the development of time-lapse photography, it has been possible to document the dances and scuffles in densely populated plant communities: saplings on the forest floor compete for space to stretch their roots and shoots; fallen trees provide young ones with nourishment; vines lash around desperately searching for a trunk they can climb to reach the light; and wildflowers race each other to open their blooms in springtime and compete for the attention of pollinators. To truly understand the secret social life of plants, however, you must look and listen more closely.

A good place to start is underground in the rhizosphere — the ecosystem in and around plant roots. Beneath the forest floor, each spoonful of dirt contains millions of tiny organisms. These bacteria and fungi form a symbiotic relationship with plant roots, helping their hosts absorb water and vital elements like nitrogen in return for a steady supply of nutrients.

Now closer inspection has revealed that fungal threads physically unite the roots of dozens of trees, often of different species, into a single mycorrhizal network. These webs sprawled beneath our feet are genuine social networks. By tracing the movement of radioactive carbon isotopes through them, Simard has found that water and nutrients tend to flow from trees that make excess food to ones that don’t have enough. One study published in 2009, for example, showed that older Douglas firs transferred molecules containing carbon and nitrogen to saplings of the same species via their mycorrhizal networks. The saplings with the greatest access to these networks were the healthiest (*Ecology*, vol 90, p 2808).

As well as sharing food, mycorrhizal associations may also allow plants to share information. Biologists have known for a while that plants can respond to airborne defence signals from others that are under attack. When a caterpillar starts to munch on a tomato plant, for example, the leaves produce noxious compounds that both repel the attacker and stimulate neighbouring plants to ready their own defences.

Yuan Yuan Song of South China Agricultural University in Guangzhou and colleagues investigated whether similar chemical alarm calls travel underground. They exposed one group of tomato plants to a pathogenic fungus and monitored the response in a second group connected to the first via a mycorrhizal network. The diseased plants were sealed inside airtight plastic bags to prevent any communication above ground. Nevertheless, the healthy partners began producing defence chemicals, suggesting that the plants detect each other’s alarm calls via their mycorrhizal networks (*PLoS One*, vol 5, p e13324).

Another recent discovery, one which may be connected with Song's finding, is that some plants recognise members of their own species and apparently work together for the common good. Amanda Broz of Colorado State University in Fort Collins paired spotted knotweed plants inside a greenhouse either with other knotweeds or with blue bunchgrass. She then simulated an attack by spraying them with methyl jasmonate, a chemical many plants release when wounded. The knotweed's response depended on its neighbours. When growing near members of its own species, it produced leaf toxins to boost its defences. But it chose to focus on leaf and stem growth when its neighbours were bunchgrass (BMC Plant Biology, vol 10, p 115).

Such discrimination makes sense because, in the knotweed's native environment, dense clusters of a single plant tend to attract large numbers of insects to an all-you-can-eat buffet. So cooperating with other knotweed plants helps stave off an attack. However, when knotweed is surrounded by bunchgrass, a better strategy is to leave defence to its neighbours and concentrate on aggressive growth — which might also help explain why knotweed is such an effective invasive species.

Broz's research was published just last year, and it remains unclear how knotweed, or any other plant, could be recognising members of its own species. However, one instance of a plant with family values has been more thoroughly explored.

In a landmark paper published in 2007, Susan Dudley from McMaster University in Ontario, Canada, reported the first case of plants recognising and favouring their kin (Biology Letters, vol 3, p 435). Her studies of American sea rocket, a scraggly weed that grows along the shorelines of the Great Lakes, showed that a plant potted with an unrelated individual did not hesitate to spread its roots and soak up as much water and nutrients as it could. However, when Dudley planted sea-rocket siblings in the same pot, they exercised restraint, taming their eager roots to better share resources. Siblings and strangers that grew near each other but did not share pots showed no differences in root growth, indicating that sea rocket relies on underground chemical signalling to identify its kin. They don't seem to be using mycorrhizal networks, though.

In subsequent research with Meredith Biedrzycki from the University of Delaware in Newark, Dudley discovered that the signals take the form of "exudates" — a cocktail of soluble compounds including phenols, flavonoids, sugars, organic acids, amino acids and proteins, secreted by roots into the rhizosphere. How these indicate relatedness is still a mystery, though (Communicative & Integrative Biology, vol 3, p 28).

In the past few years, kin recognition has been discovered in other plants, including the botanical "lab rat" *Arabidopsis* and a kind of Impatiens called pale jewelweed. This has led some botanists to argue that plants, like animals, are capable of kin selection — behaviours and strategies that help relatives reproduce. Kin selection has an evolutionary rationale because it increases the chances that the genes an individual shares with its relatives will be passed to the next generation, even if altruistic behaviour comes at a cost to one's own well-being. "There's no reason to think plants wouldn't get the same benefits from kin selection that animals do," says Dudley.

Recognising siblings and restraining one's growth in response certainly looks like kin selection, but that still leaves the question of whether such interactions also improve the survival prospects of related plants. Research by Richard Karban at the University of California, Davis, goes some way to answering that.

Karban studied a desert shrub called sagebrush, which emits a pungent bouquet of chemicals to deter insects. When he clipped an individual plant's leaves to simulate an attack, he found that it mounted a more robust defence if it was growing next to its own clone than if its neighbour was unrelated. What's more, for a period of five months afterwards, the neighbouring clones suffered far less damage from caterpillars, grasshoppers and deer than did unrelated neighbours (Ecology Letters, vol 12, p 502).

Studying kin selection and other plant interactions doesn't just improve our knowledge of basic plant biology and ecology. "There are a lot of people really interested in it, because it's not just an intellectually neat puzzle," says James Cahill at the University of Alberta in Edmonton, Canada. "There are many potential applications, especially for agriculture."

One obvious area is in companion planting — the strategic positioning of different crops or garden plants so they benefit one another by deterring pests, attracting pollinators and improving nutrient uptake. This ancient technique, which traditionally relies on trial and error and close observation, can be highly effective. For example, beans fix nitrogen that boosts growth in some other plants, and when Europeans arrived in America in the 15th century, they discovered that Native Americans used corn as a natural trellis for

bean plants. Our modern understanding of plant interactions suggests we could find new, more subtle and potentially beneficial relationships, which could help us overcome a major drawback of modern monoculture farming. Since a single pathogen can wipe out an entire crop of genetically similar — and therefore equally vulnerable — plants, farmers make heavy use of pesticides. But instead of picturing an endless stretch of corn or wheat, imagine something more like a jungle of diverse species that work together above and below ground.

Breeding cooperation

Cahill has another idea. “Fertilisers aren’t always spread evenly,” he says. “Maybe we could breed plants to cooperate more effectively with their neighbours to share fertiliser.” Meanwhile, Simard thinks the recent discoveries about mycorrhizal networks have implications for both agriculture and forestry. Hardy old trees should not be removed from forests so hastily, she says, because saplings depend on the mycorrhizal associations maintained by these grandparent trees. She also suggests that farmers should go easy on fertilisation and irrigation because these practices can damage or destroy delicate mycorrhizal networks.

Clearly, we do not yet have all the information we need to start deploying such tactics. “What we want to do next is develop more advanced techniques to watch roots grow, to really see what they do with each other and how they interact in space,” Dudley says. She also wants to figure out what genetic factors control plant interactions and look at how they change survival and reproduction. “The molecular aspects are perhaps the most challenging,” she adds, “but we have made some big leaps.”

The idea that plants have complex relationships may require a shift in mindset. “For the longest time people thought that plants were just there,” says Biedrzycki. “But they can defend themselves more than we thought and they can create the environment around them. It turns out they have some control over what is going on through this chemical communication.” Passive and silent though plants may seem, their abilities to interact and communicate should not come as such a shock. “Some incredibly simple organisms — even one-celled organisms — can recognise and respond to each other,” says Broz. “Why is it so bizarre to think that plants could have this same kind of ability?”

Scent of a Victim

Many of the social interactions of plants seem to involve a form of sharing or cooperation mediated by chemical signals. However, some chemical communication is far from benevolent, as research on a parasitic vine called dodder has found.

Dodder contains almost no chlorophyll — the green molecule that allows plants to produce sugars from sunlight, water and carbon dioxide. Instead, after sprouting as a leafless tendril, it searches for a victim into which it sinks its nozzles and sucks out the sugary sap. “We knew how it creates nozzles and gets resources from the host, but nobody knew how dodder found its host,” says Consuelo De Moraes at Pennsylvania State University at University Park.

Some plants identify neighbours by sensing sunlight refracted off their leaves, but time-lapse video suggests that dodder uses a different technique. The footage shows that when the tendril searches for a host it twirls about like a snake tasting the air. Could it be searching for a chemical, wondered De Moraes?

To test this idea, she and her colleagues hid a variety of plants around a corner from a dodder tendril. If the vine were really using chemical sensing to find its victims, it should be able to home in on its hosts using the volatile chemicals they naturally produce.

That is exactly what they found. In fact, dodder even showed dietary preferences based on the different airborne chemicals, almost always choosing succulent tomatoes over twiggy wheat, and favouring healthy hosts by avoiding the chemicals given off by damaged plants (*Science*, vol 313, p 1964). “Not only does dodder use chemical cues to find a host,” says De Moraes, “it can distinguish between hosts of different qualities. It knows which plants are healthier and goes after them.”

(The original article is no longer available in print, but the pdf version contains all of the original text.)

A Letter to My Nephew

By James Baldwin

Originally published in *The Progressive*, 1962

(<http://www.progressive.org/news/2014/08/5047/letter-my-nephew>)



James Baldwin

Posted December 4, 2014

*Editor's Note: In light of the protests around the country demanding a stop to police brutality and changes to a racist justice system, we are reprinting one of James Baldwin's most famous articles published in *The Progressive* magazine, from December 1962. (Baldwin later adapted it in his essay collection, *The Fire Next Time*.) Senior editor Matt Rothschild remarked today, "This might be the greatest piece we've ever published."*

Dear James:

I have begun this letter five times and torn it up five times. I keep seeing your face, which is also the face of your father and my brother. I have known both of you all your lives and have carried your daddy in my arms and on my shoulders, kissed him and spanked him and watched him learn to walk. I don't know if you have known anybody from that far back, if you have loved anybody that long, first as an infant, then as a child, then as a man. You gain a strange perspective on time and human pain and effort.

Other people cannot see what I see whenever I look into your father's face, for behind your father's face as it is today are all those other faces which were his. Let him laugh and I see a cellar your father does not remember and a house he does not remember and I hear in his present laughter his laughter as a child. Let him curse and I remember his falling down the cellar steps and howling and I remember with pain his tears which my hand or your grandmother's hand so easily wiped away, but no one's hand can wipe away those tears he sheds invisibly today which one hears in his laughter and in his speech and in his songs.

I know what the world has done to my brother and how narrowly he has survived it and I know, which is much worse, and this is the crime of which I accuse my country and my countrymen and for which neither I nor time nor history will ever forgive them, that they have destroyed and are destroying hundreds of thousands of lives and do not know it and do not want to know it. One can be--indeed, one must strive to become--tough and philosophical concerning destruction and death, for this is what most of mankind has been best at since we have heard of war; remember, I said most of mankind, but it is not permissible that the authors of devastation should also be innocent. It is the innocence which constitutes the crime.

Now, my dear namesake, these innocent and well meaning people, your countrymen, have caused you to be born under conditions not far removed from those described for us by Charles Dickens in the London of more than a hundred years ago. I hear the chorus of the innocents screaming, "No, this is not true. How bitter you are," but I am writing this letter to you to try to tell you something about how to handle them, for most of them do not yet really know that you exist. I know the conditions under which you were born for I was there. Your countrymen were not there and haven't made it yet. Your grandmother was also there and no one has ever accused her of being bitter. I suggest that the innocent check with her. She isn't hard to find. Your countrymen don't know that she exists either, though she has been working for them all their lives.

Well, you were born; here you came, something like fifteen years ago, and though your father and mother and grandmother, looking about the streets through which they were carrying you, staring at the walls into which they brought you, had every reason to be heavy-hearted, yet they were not, for here you were, big James, named for me. You were a big baby. I was not. Here you were to be loved. To be loved, baby, hard at once and forever to strengthen you against the loveless world. Remember that. I know how black it looks today for you. It looked black that day too. Yes, we were trembling. We have not stopped trembling yet, but if we had not loved each other, none of us would have survived, and now you must survive because we love you and for the sake of your children and your children's children.

This innocent country set you down in a ghetto in which, in fact, it intended that you should perish. Let me spell out precisely what I mean by that for the heart of the matter is here and the crux of my dispute with my country. You were born where you were born and faced the future that you faced because you were black and for no other reason. The limits to your ambition were thus expected to be settled. You were born into a society which spelled out with brutal clarity and in as many ways as possible that you were a worthless human being. You were not expected to aspire to excellence. You

were expected to make peace with mediocrity. Wherever you have turned, James, in your short time on this earth, you have been told where you could go and what you could do and how you could do it, where you could live and whom you could marry.

I know your countrymen do not agree with me here and I hear them saying, “You exaggerate.” They do not know Harlem and I do. So do you. Take no one’s word for anything, including mine, but trust your experience. Know whence you came. If you know whence you came, there is really no limit to where you can go. The details and symbols of your life have been deliberately constructed to make you believe what white people say about you. Please try to remember that what they believe, as well as what they do and cause you to endure, does not testify to your inferiority, but to their inhumanity and fear.

Please try to be clear, dear James, through the storm which rages about your youthful head today, about the reality which lies behind the words “acceptance” and “integration.” There is no reason for you to try to become like white men and there is no basis whatever for their impertinent assumption that they must accept you. The really terrible thing, old buddy, is that you must accept them, and I mean that very seriously. You must accept them and accept them with love, for these innocent people have no other hope. They are in effect still trapped in a history which they do not understand and until they understand it, they cannot be released from it. They have had to believe for many years, and for innumerable reasons, that black men are inferior to white men.

Many of them indeed know better, but as you will discover, people find it very difficult to act on what they know. To act is to be committed and to be committed is to be in danger. In this case the danger in the minds and hearts of most white Americans is the loss of their identity. Try to imagine how you would feel if you woke up one morning to find the sun shivering and all the stars aflame. You would be frightened because it is out of the order of nature. Any upheaval in the universe is terrifying because it so profoundly attacks one’s sense of one’s own reality. Well, the black man has functioned in the white man’s world as a fixed star, as an immovable pillar, and as he moves out of his place, heaven and earth are shaken to their foundations.

You don’t be afraid. I said it was intended that you should perish, in the ghetto, perish by never being allowed to go beyond and behind the white man’s definition, by never being allowed to spell your proper name. You have, and many of us have, defeated this intention and by a terrible law, a terrible paradox, those innocents who believed that your imprisonment made them safe are losing their grasp of reality. But these men are your brothers, your lost younger brothers, and if the word “integration” means anything, this is what it means, that we with love shall force our brothers to see themselves as they are, to cease fleeing from reality and begin to change it, for this is your home, my friend. Do not be driven from it. Great men have done great things here and will again and we can make America what America must become.

It will be hard, James, but you come from sturdy peasant stock, men who picked cotton, dammed rivers, built railroads, and in the teeth of the most terrifying odds, achieved an unassailable and monumental dignity. You come from a long line of great poets, some of the greatest poets since Homer. One of them said, “The very time I thought I was lost, my dungeon shook and my chains fell off.”

You know and I know that the country is celebrating one hundred years of freedom one hundred years too early. We cannot be free until they are free. God bless you, James, and Godspeed.

Your uncle,

JAMES

The Struggle to Govern the Commons

Thomas Dietz,¹ Elinor Ostrom,² Paul C. Stern^{3*}

Human institutions—ways of organizing activities—affect the resilience of the environment. Locally evolved institutional arrangements governed by stable communities and buffered from outside forces have sustained resources successfully for centuries, although they often fail when rapid change occurs. Ideal conditions for governance are increasingly rare. Critical problems, such as transboundary pollution, tropical deforestation, and climate change, are at larger scales and involve nonlocal influences. Promising strategies for addressing these problems include dialogue among interested parties, officials, and scientists; complex, redundant, and layered institutions; a mix of institutional types; and designs that facilitate experimentation, learning, and change.

In 1968, Hardin (*1*) drew attention to two human factors that drive environmental change. The first factor is the increasing demand for natural resources and environmental services, stemming from growth in human population and per capita resource consumption. The second factor is the way in which humans organize themselves to extract resources from the environment and eject effluents into it—what social scientists refer to as institutional arrangements. Hardin's work has been highly influential (*2*) but has long been aptly criticized as oversimplified (*3–6*).

Hardin's oversimplification was twofold: He claimed that only two state-established institutional arrangements—centralized government and private property—could sustain commons over the long run, and he presumed that resource users were trapped in a commons dilemma, unable to create solutions (*7–9*). He missed the point that many social groups, including the herders on the commons that provided the metaphor for his analysis, have struggled successfully against threats of resource degradation by developing and maintaining self-governing institutions (*3, 10–13*). Although these institutions have not always succeeded, neither have Hardin's preferred alternatives of private or state ownership.

In the absence of effective governance institutions at the appropriate scale, natural resources and the environment are in peril from increasing human population, consumption, and deployment of advanced technologies for resource use, all of which have reached unprecedented levels. For example, it is estimated that “the global ocean has lost

more than 90% of large predatory fishes” with an 80% decline typically occurring “within 15 years of industrialized exploitation” (*14*). The threat of massive ecosystem degradation results from an interplay among ocean ecologies, fishing technologies, and inadequate governance.

Inshore fisheries are similarly degraded where they are open access or governed by top-down national regimes, leaving local and regional officials and users with insufficient autonomy and understanding to design effective institutions (*15, 16*). For example, the degraded inshore ground fishery in Maine is governed by top-down rules based on models that were not credible among users. As a result, compliance has been relatively low and there has been strong resistance to strengthening existing restrictions. This is in marked contrast to the Maine lobster fishery, which has been governed by formal and informal user institutions that have strongly influenced state-level rules that restrict fishing. The result has been credible rules with very high levels of compliance (*17–19*). A comparison of the landings of ground fish and lobster since 1980 is shown in Fig. 1. The rules and high levels of compliance related to lobster appear to have prevented the destruction of this fishery but probably are not responsible for the sharp rise in abundance and landings after 1986.

Resources at larger scales have also been successfully protected through appropriate international governance regimes such as the Montreal Protocol on stratospheric ozone and the International Commission for the Protection of the Rhine Agreements (*20–24*). Figure 2 compares the trajectory of atmospheric concentrations of ozone-depleting substances (ODS) with that of carbon dioxide since 1982. The Montreal Protocol, the centerpiece of the

international agreements on ozone depletion, was signed in 1987. Before then, ODS concentrations were increasing faster than those of CO₂; the increases slowed by the early 1990s and the concentration appears to have stabilized in recent years. The international treaty regime to reduce the anthropogenic impact on stratospheric ozone is widely considered an example of a successful effort to protect the global commons. In contrast, international efforts to reduce greenhouse gas concentrations have not yet had an impact.

Knowledge from an emerging science of human-environment interactions, sometimes called human ecology or the “second environmental science” (*25, 26*), is clarifying the characteristics of institutions that facilitate or undermine sustainable use of environmental resources under particular conditions (*6, 27*). The knowledge base is strongest with small-scale ecologies and institutions, where long time series exist on many successes and failures. It is now developing for larger-scale systems. In this review, we address what science has learned about governing the commons and why it is always a struggle (*28*).

Why a Struggle?

Devising ways to sustain the earth's ability to support diverse life, including a reasonable quality of life for humans, involves making tough decisions under uncertainty, complexity, and substantial biophysical constraints as well as conflicting human values and interests. Devising effective governance systems is akin to a coevolutionary race. A set of rules crafted to fit one set of socioecological conditions can erode as social, economic, and

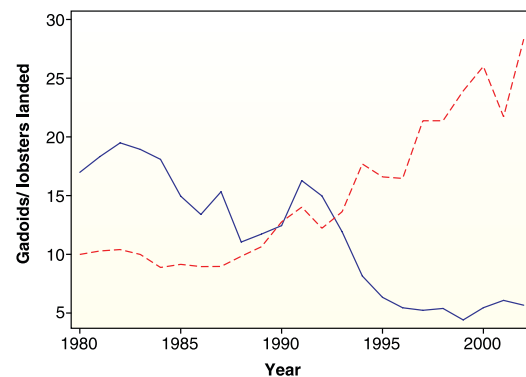


Fig. 1. Comparison of landings of ground fish (gadoids, solid blue line) and lobster (dashed red line) in Maine from 1980 to 2002. Measured in millions of kilograms of ground fish and lobsters landed per year. International fishing in these waters ended with the extended jurisdiction that occurred in 1977 (*155*).

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technological developments increase the potential for human damage to ecosystems and even to the biosphere itself. Furthermore, humans devise ways of evading governance rules. Thus, successful commons governance requires that rules evolve.

Effective commons governance is easier to achieve when (i) the resources and use of the resources by humans can be monitored, and the information can be verified and understood at relatively low cost (e.g., trees are easier to monitor than fish, and lakes are easier to monitor than rivers) (29); (ii) rates of change in resources, resource-user populations, technology, and economic and social conditions are moderate (30–32); (iii) communities maintain frequent face-to-face communication and dense social networks—sometimes called social capital—that increase the potential for trust, allow people to express and see emotional reactions to distrust, and lower the cost of monitoring behavior and inducing rule compliance (33–36); (iv) outsiders can be excluded at relatively low cost from using the resource (new entrants add to the harvesting pressure and typically lack understanding of the rules); and (v) users support effective monitoring and rule enforcement (37–39). Few settings in the world are characterized by all of these conditions. The challenge is to devise institutional arrangements that help to establish such conditions or, as we discuss below, meet the main challenges of governance in the absence of ideal conditions (6, 40, 41).

Selective Pressures

The characteristics of resources and social interaction in many subsistence societies present favorable conditions for the evolution of effective self-governing resource institutions (13). Hundreds of documented examples exist of long-term sustainable resource use in such communities as well as in more economically advanced communities with effective, local, self-governing rights, but there are also many failures (6, 11, 42–44). As human communities have expanded, the selective pressures on environmental governance institutions increasingly have come from broad influences. Commerce has become regional, national, and global, and institutions at all of these levels have been created to enable and regulate trade, transportation, competition, and conflict (45, 46). These institutions shape environmental impact, even if they are not designed with that intent. They also provide mechanisms for environmental governance (e.g., national laws) and part of the social context for local efforts at environmental governance. Larger scale governance may authorize local control, help it, hinder it, or override it (47–52). Now, every local place is strongly influenced by global dynamics (48, 53–57).

The most important contemporary environmental challenges involve systems that are intrinsically global (e.g., climate change) or are tightly linked to global pressures (e.g., timber production for the world market) and that require governance at levels from the global all the way down to the local (48, 58, 59). These situations often feature environmental outcomes spatially displaced from their causes and hard-to-monitor, larger scale economic incentives that may not be closely aligned with the condition of local ecosystems. Also, differentials in power within user groups or across scales allow some to ignore rules of commons use or to reshape the rules in their own interest, such as when global markets reshape demand for local resources (e.g., forests) in ways that swamp the ability of locally evolved institutions to regulate their use (60–62).

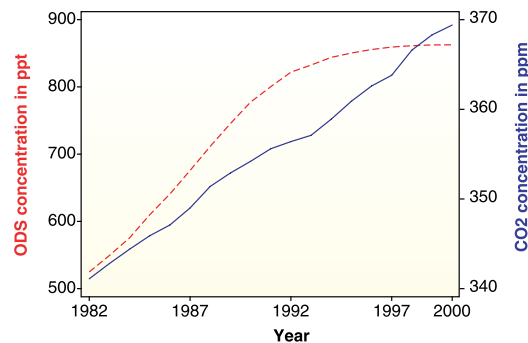


Fig. 2. Atmospheric concentration of CO₂ (solid blue line, right scale) and three principal ODS (dashed red line, left scale). The ODS are chlorofluorocarbons (CFCs) 11, 12, and 113 and were weighted based on their ozone-depleting potential (156). Data are from (157). ppt, parts per trillion; ppm, parts per million.

The store of governance tools and ways to modify and combine them is far greater than often is recognized (6, 63–65). Global and national environmental policy frequently ignores community-based governance and traditional tools, such as informal communication and sanctioning, but these tools can have significant impact (63, 66). Further, no single broad type of ownership—government, private, or community—uniformly succeeds or fails to halt major resource deterioration, as shown for forests in multiple countries (supporting online material text, figs. S1 to S5, and table S1).

Requirements of Adaptive Governance in Complex Systems

Providing information. Environmental governance depends on good, trustworthy information about stocks, flows, and processes within the resource systems being governed, as well as about the human-environment interactions affecting those systems. This information must be

congruent in scale with environmental events and decisions (48, 67). Highly aggregated information may ignore or average out local information that is important in identifying future problems and developing solutions.

For example, in 2002, a moratorium on all fishing for northern cod was declared by the Canadian government after a collapse of this valuable fishery. An earlier near-collapse had led Canada to declare a 200-mile zone of exclusive fisheries jurisdiction in 1977 (68, 69). Considerable optimism existed during the 1980s that the stocks, as estimated by fishery scientists, were rebuilding. Consequently, generous total catch limits were established for northern cod and other ground fish, the number of licensed fishers was allowed to increase considerably, and substantial government subsidies were allocated for new vessels (70). What went wrong? There were a variety of information-related problems including: (i) treating all northern cod as a single stock instead of recognizing distinct populations with different characteristics, (ii) ignoring the variability of year classes of northern cod, (iii) focusing on offshore-fishery landing data rather than inshore data to “tune” the stock assessment, and (iv) ignoring inshore fishers who were catching ever-smaller fish and doubted the validity of stock assessments (70–72). This experience illustrates the need to collect and model both local and aggregated information about resource conditions and to use it in making policy at the appropriate scales.

Information also must be congruent with decision makers’ needs in terms of timing, content, and form of presentation (73–75). Informational systems that simultaneously meet high scientific standards and serve ongoing needs of decision makers and users are particularly useful. Information must not overload the capacity of users to assimilate it. Systems that adequately characterize environmental conditions or human activities with summary indicators such as prices for products or emission permits, or certification of good environmental performance can provide valuable signals as long as they are attentive to local as well as aggregate conditions (76–78).

Effective governance requires not only factual information about the state of the environment and human actions but also information about uncertainty and values. Scientific understanding of coupled human-biophysical systems will always be uncertain because of inherent unpredictability in the systems and because the science is never complete (79). Decision makers need information that characterizes the types and magnitudes of this uncertainty, as well as the nature and extent of scientific ignorance and disagreement (80). Also, because every environmental decision requires tradeoffs,

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knowledge is needed about individual and social values and about the effects of decisions on various valued outcomes. For many environmental systems, local and easily captured values (e.g., the market value of lumber) have to be balanced against global, diffuse, and hard-to-capture values (e.g., biodiversity and the capability of humans and ecosystems to adapt to unexpected events). Finding ways to measure and monitor the outcomes for such varied values in the face of globalization is a major informational challenge for governance.

Dealing with conflict. Sharp differences in power and in values across interested parties make conflict inherent in environmental choices. Indeed, conflict resolution may be as important a motivation for designing resource institutions as is concern with the resources themselves (81). People bring varying perspectives, interests, and fundamental philosophies to problems of environmental governance (74, 82–84), and their conflicts, if they do not escalate to the point of dysfunction, can spark learning and change (85, 86).

For example, a broadly participatory process was used to examine alternative strategies for regulating the Mississippi River and its tributaries (87). A dynamic model was constructed with continuous input by the Corps of Engineers, the Fish and Wildlife Service, local landowners, environmental groups, and academics from multiple disciplines. After extensive model development and testing against past historical data, most stakeholders had high confidence in the explanatory power of the model. Consensus was reached over alternative management options, and the resulting policies generated far less conflict than had existed at the outset (88).

Delegating authority to environmental ministries does not always resolve conflicts satisfactorily, so governments are experimenting with various governance approaches to complement managerial ones. They range from ballots and polls, where engagement is passive and participants interact minimally, to adversarial processes that allow parties to redress grievances through formal legal procedures, to various experiments with intense interaction and deliberation aimed at negotiating decisions or allowing parties in potential conflict to provide structured input to them through participatory processes (89–93).

Inducing rule compliance. Effective governance requires that the rules of resource use are generally followed, with reasonable standards for tolerating modest violations. It is generally most effective to impose modest sanctions on first offenders, and gradually increase the severity of sanctions for those who do not learn from their first or second encounter (39, 94). Community-based institutions often use informal strategies for achieving compliance that rely on participants' commitment to rules and subtle social

sanctions. Whether enforcement mechanisms are formal or informal, those who impose them must be seen as effective and legitimate by resource users or resistance and evasion will overwhelm the commons governance strategy.

Much environmental regulation in complex societies has been “command and control.” Governments require or prohibit specific actions or technologies, with fines or jail terms possible for punishing rule breakers. If sufficient resources are made available for monitoring and enforcement, such approaches are effective. But when governments lack the will or resources to protect “protected areas” (95–97), when major environmental damage comes from hard-to-detect “nonpoint sources,” and when the need is to encourage innovation in behaviors or technologies rather than to require or prohibit familiar ones, command and control approaches are less effective. They are also economically inefficient in many circumstances (98–100).

Financial instruments can provide incentives to achieve compliance with environmental rules. In recent years, market-based systems of tradable environmental allowances (TEAs) that define a limit to environmental withdrawals or emissions and permit free trade of allocated allowances under those limits have become popular (76, 101, 102). TEAs are one of the bases for the Kyoto agreement on climate change.

Economic theory and experience in some settings suggest that these mechanisms have substantial advantages over command and control (103–106). TEAs have exhibited good environmental performance and economic efficiency in the U.S. Sulfur Dioxide Allowance Market intended to reduce the prevalence of acid rain (107, 108) and the Lead Phasedown Program aimed at reducing the level of lead emissions (109). Crucial variables that differentiate these highly successful programs from less successful ones, such as chlorofluorocarbon production quota trading and the early EPA emission trading programs, include: (i) the level of predictability of the stocks and flows, (ii) the number of users or producers who are regulated, (iii) the heterogeneity of the regulated users, and (iv) clearly defined and fully exchangeable permits (110).

TEAs, like all institutional arrangements, have notable limitations. TEA regimes tend to leave unprotected those resources not specifically covered by trading rules (e.g., bycatch of noncovered fish species) (111) and to suffer when monitoring is difficult (e.g., under the Kyoto protocol, the question of whether geologically sequestered carbon will remain sequestered). Problems can also occur with the initial allocation of allowances, especially when historic users, who may be called on to change their behavior most, have disproportionate power over allocation deci-

sions (76, 101). TEAs and community-based systems appear to have opposite strengths and weaknesses (101), suggesting that institutions that combine aspects of both systems may work better than either approach alone. For example, the fisheries tradable permit system in New Zealand has added comanagement institutions to complement the market institutions (102, 112).

Voluntary approaches and those based on information disclosure have only begun to receive careful scientific attention as supplements to other tools (63, 77, 113–115). Success appears to depend on the existence of incentives that benefit leaders in volunteering over laggards and on the simultaneous use of other strategies, particularly ones that create incentives for compliance (77, 116–118). Difficulties of sanctioning pose major problems for international agreements (119–121).

Providing infrastructure. The importance of physical and technological infrastructure is often ignored. Infrastructure, including technology, determines the degree to which a commons can be exploited (e.g., water works and fishing technology), the extent to which waste can be reduced in resource use, and the degree to which resource conditions and the behavior of humans users can be effectively monitored. Indeed, the ability to choose institutional arrangements depends in part on infrastructure. In the absence of barbed-wire fences, for example, enforcing private property rights on grazing lands is expensive, but with barbed wire fences, it is relatively cheap (122). Effective communication and transportation technologies are also of immense importance. Fishers who observe an unauthorized boat or harvesting technology can use a radio or cellular phone to alert others to illegal actions (123). Infrastructure also affects the links between local commons and regional and global systems. Good roads can provide food in bad times but can also open local resources to global markets, creating demand for resources that cannot be used locally (124). Institutional infrastructure is also important, including research, social capital, and multilevel rules, to coordinate between local and larger levels of governance (48, 125, 126).

Be prepared for change. Institutions must be designed to allow for adaptation because some current understanding is likely to be wrong, the required scale of organization can shift, and biophysical and social systems change. Fixed rules are likely to fail because they place too much confidence in the current state of knowledge, whereas systems that guard against the low probability, high consequence possibilities and allow for change may be suboptimal in the short run but prove wiser in the long run. This is a principal lesson of adaptive management research (31, 127).

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Strategies for Meeting the Requirements of Adaptive Governance

The general principles for robust governance institutions for localized resources (Fig. 3) are well established as a result of multiple empirical studies (13, 39, 128–137). Many of these also appear to be applicable to regional and global resources (138), although they are less well tested at those scales. Three of them seem to be particularly relevant for problems at larger scales.

Analytic deliberation. Well-structured dialogue involving scientists, resource users, and interested publics, and informed by analysis of key information about environmental and human-environment systems, appears critical. Such analytic deliberation (74, 139, 140) provides improved information and the trust in it that is essential for information to be used effectively, builds social capital, and can allow for change and deal with inevitable conflicts well enough to produce consensus on governance rules.

The negotiated 1994 U.S. regulation on disinfectant by-products in water that reached an interim consensus, including a decision to collect new information and reconsider the rule on that basis (74), is an excellent example of this approach.

Nesting. Institutional arrangements must be complex, redundant, and nested in many layers (32, 141, 142). Simple strategies for governing the world's resources that rely exclusively on imposed markets or one-level, centralized command and control and that eliminate apparent redundancies in the name of efficiency have been tried and have failed. Catastrophic failures often have resulted when central governments have exerted sole authority over resources. Examples include the massive environmental degradation and impoverishment of local people in Indonesian Borneo (95), the increased rate of loss and fragmentation of high-quality habitat that occurred after creating the Wolong Nature Reserve in China (143), and the closing of the northern cod fishery along the eastern coast of Canada partly attributable to the excessive quotas granted by the Canadian government (70).

Institutional variety. Governance should employ mixtures of institutional types (e.g., hierarchies, markets, and community self-governance) that employ a variety of decision rules to change incentives, increase information, monitor use, and induce compliance (6,

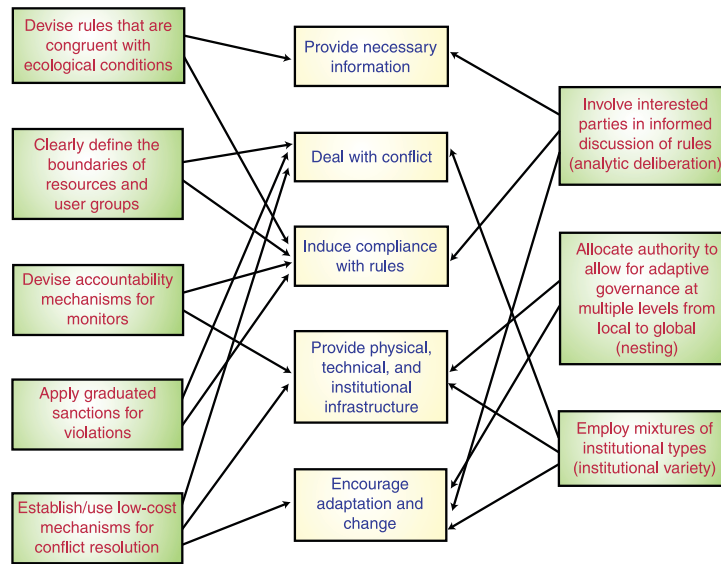


Fig. 3. General principles for robust governance of environmental resources (green, left and right columns) and the governance requirements they help meet (yellow, center column) (73, 158). Each principle is relevant for meeting several requirements. Arrows indicate some of the most likely connections between principles and requirements. Principles in the right column may be particularly relevant for global and regional problems.

63, 117). Innovative rule evaders can have more trouble with a multiplicity of rules than with a single type of rule.

Conclusion

Is it possible to govern such critical commons as the oceans and the climate? We remain guardedly optimistic. Thirty-five years ago it seemed that the “tragedy of the commons” was inevitable everywhere not owned privately or by a government. Systematic multidisciplinary research has, however, shown that a wide diversity of adaptive governance systems have been effective stewards of many resources. Sustained research coupled to an explicit view of national and international policies as experiments can yield the scientific knowledge necessary to design appropriate adaptive institutions.

Sound science is necessary for commons governance, but not sufficient. Too many strategies for governance of local commons are designed in capital cities or by donor agencies in ignorance of the state of the science and local conditions. The results are often tragic, but at least these tragedies are local. As the human footprint on the Earth enlarges (144), humanity is challenged to develop and deploy understanding of large-scale commons governance quickly enough to avoid the large-scale tragedies that will otherwise ensue.

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Supporting Online Material

www.sciencemag.org/cgi/content/full/302/5652/1907/DC1
SOM Text
Fig. S1 to S5
Table S1

Web Resources

www.sciencemag.org/cgi/content/full/302/5652/1907/DC2

AP Seminar End-of-Course Exam

Weight: 45% of the AP Seminar score

AP SEMINAR

Part A

Suggested time – 30 minutes

Directions: Read the passage below and then respond to the following three questions.

1. Identify the author's argument, main idea, or thesis.
2. Explain the author's line of reasoning by identifying the claims used to build the argument and the connections between them.
3. Evaluate the effectiveness of the evidence the author uses to support the claims made in the argument.

From "The Uncertainty of Science" in *The Meaning of It All: Thoughts of a Citizen Scientist* by Richard P. Feynman (1998, 2005)

Scientists . . . are used to dealing with doubt and uncertainty. All scientific knowledge is uncertain. This experience with doubt and uncertainty is important. I believe that it is of very great value, and one that extends beyond the sciences. I believe that to solve any problem that has never been solved before, you have to leave the door to the unknown ajar. You have to permit the possibility that you do not have it exactly right. Otherwise, if you have made up your mind already, you might not solve it.

When the scientist tells you he does not know the answer, he is an ignorant man. When he tells you he has a hunch about how it is going to work, he is uncertain about it. When he is pretty sure of how it is going to work, and he tells you, "This is the way it's going to work, I'll bet," he still is in some doubt. And it is of paramount importance, in order to make progress, that we recognize this ignorance and this doubt. Because we

have the doubt, we then propose looking in new directions for new ideas. The rate of the development of science is not the rate at which you make observations alone but, much more important, the rate at which you create new things to test.

If we were not able or did not desire to look in any new direction, if we did not have a doubt or recognize ignorance, we would not get any new ideas. There would be nothing worth checking, because we would know what is true. So what we call scientific knowledge today is a body of statements of varying degrees of certainty. Some of them are most unsure; some of them are nearly sure; but none is absolutely certain. Scientists are used to this. We know that it is consistent to be able to live and not know. Some people say, "How can you live without knowing?" I do not know what they mean. I always live without knowing. That is easy. How you get to know is what I want to know.

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This freedom to doubt is an important matter in the sciences and, I believe, in other fields. It was born of a struggle. It was a struggle to be permitted to doubt, to be unsure. And I do not want us to forget the importance of the struggle and, by default, to let the thing fall away. I feel a responsibility as a scientist who knows the great value of a satisfactory philosophy of ignorance, and the progress made possible by such a philosophy, progress which is the fruit of freedom of thought. I feel a responsibility to proclaim the value of this freedom and to teach that doubt is not to be feared,

but that it is, to be welcomed as the possibility of a new potential for human beings. If you know that you are not sure, you have a chance to improve the situation. I want to demand this freedom for future generations.

Doubt is clearly a value in the sciences. Whether it is in other fields is an open question and an uncertain matter. I expect in the next lectures to discuss that very point and to try to demonstrate that it is important to doubt and that doubt is not a fearful thing, but a thing of very great value.

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END OF PART A

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AP SEMINAR**Part B, Question 4****Suggested time – 90 minutes**

Directions: Read the four sources carefully, focusing on a theme or issue that connects them and the different perspective each represents. Then, write a logically organized, well-reasoned, and well-written argument that presents your own perspective on the theme or issue you identified. You must incorporate at least two of the sources provided and link the claims in your argument to supporting evidence. You may also use the other provided sources or draw upon your own knowledge. In your response, refer to the provided sources as Source A, Source B, Source C, or Source D, or by the authors' names.

Source A

From “Why Great Revolutions Will Become More Rare” in *Democracy in America*
by Alexis de Tocqueville (1840)

Among a people whose ranks are nearly equal, no ostensible bond connects men together or keeps them settled in their station. None of them have either a permanent right or power to command, none are forced by their condition to obey; but every man, finding himself possessed of some education and some resources, may choose his own path and proceed apart from all his fellow men. The same causes that make the members of the community independent of each other continually impel them to new and restless desires and constantly spur them onwards. It therefore seems natural that in a democratic community men, things, and opinions should be forever changing their form and place, and that democratic ages should be times of rapid and incessant transformation.

But is this really the case? Does the equality of social conditions habitually and permanently lead men to revolution? Does that state of society contain some perturbing principle which prevents the community from ever subsiding into calm and disposes the citizens to alter incessantly their laws, their principles, and their manners? I do not believe it; and as the subject is important, I beg for the reader's close attention.

Almost all the revolutions that have changed the aspect of nations have been made to consolidate or to destroy social inequality. Remove the secondary causes that have produced the great convulsions of the world and you will almost always find the principle of inequality at the bottom. Either the poor have attempted to plunder the rich, or the rich to enslave the poor. If, then, a state of society can ever be founded in which every man shall have something to keep and little to take from others, much will have been done for the peace of the world.

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Source B

“A Sane Revolution”
by D. H. Lawrence (1929)

If you make a revolution, make it for fun,
don't make it in ghastly seriousness,
don't do it in deadly earnest,
do it for fun.

Don't do it because you hate people,
do it just to spit in their eye.

Don't do it for the money,
do it and be damned to the money.

Don't do it for equality,
do it because we've got too much equality
and it would be fun to upset the apple-cart
and see which way the apples would go a-rolling.

Don't do it for the working classes.
Do it so that we can all of us be little aristocracies on our own
and kick our heels like jolly escaped asses.

Don't do it, anyhow, for international Labour.
Labour is the one thing a man has had too much of.
Let's abolish labour, let's have done with labouring!
Work can be fun, and men can enjoy it; then it's not labour.
Let's have it so! Let's make a revolution for fun!

“A Sane Revolution” by D. H. Lawrence.
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Source C

From “Civil Disobedience”
by Henry David Thoreau (1849)

I HEARTILY ACCEPT the motto, — “That government is best which governs least”; and I should like to see it acted up to more rapidly and systematically. Carried out, it finally amounts to this, which also I believe, — “That government is best which governs not at all”; and when men are prepared for it, that will be the kind of government which they will have. Government is at best but an expedient; but most governments are usually, and all governments are sometimes, inexpedient. The objections which have been brought against a standing army, and they are many and weighty, and deserve to prevail, may also at last be brought against a standing government. The standing army is only an arm of the standing government. The government itself, which is only the mode which the people have chosen to execute their will, is equally liable to be abused and perverted before the people can act through it.

. . . Governments show thus how successfully men can be imposed on, even impose on themselves, for their own advantage. It is excellent, we must all allow. Yet this government never of itself furthered any enterprise, but by the alacrity with which it got out of its way. It does not keep the country free. It does not settle the West. It does not educate. The character inherent in the American people has done all that has been accomplished; and it would have done somewhat more, if the government had not sometimes got in its way. For government is an expedient by which men would fain succeed in letting one another alone; and, as has been said, when it is most expedient, the governed are most let alone by it. . . .

But, to speak practically and as a citizen, unlike those who call themselves no-government men, I ask for, not at once no government, but at once a better government. Let every man make known what kind of government would command his respect, and that will be one step toward obtaining it.

. . . All men recognize the right of revolution; that is, the right to refuse allegiance to, and to resist, the government, when its tyranny or its inefficiency are great and unendurable. But almost all say that such is not the case now. But such was the case, they think, in the Revolution of '75. If one were to tell me that this was a bad government because it taxed certain foreign commodities brought to its ports, it is most probable that I should not make an ado about it, for I can do without them. All machines have their friction; and possibly this does enough good to counterbalance the evil. At any rate, it is a great evil to make a stir about it. But when the friction comes to have its machine, and oppression and robbery are organized, I say, let us not have such a machine any longer. In other words, when a sixth of the population of a nation which has undertaken to be the refuge of liberty are slaves, and a whole country is unjustly overrun and conquered by a foreign army, and subjected to military law, I think that it is not too soon for honest men to rebel and revolutionize. What makes this duty the more urgent is the fact that the country so overrun is not our own, but ours is the invading army.

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Source D

From "Death of Rosa Parks - Senate Floor Statement"
Statement of Senator Obama (October 25, 2005)

Mr. President, today the nation mourns a genuine American hero. Rosa Parks died yesterday in her home in Detroit. Through her courage and by her example, Rosa Parks helped lay the foundation for a country that could begin to live up to its creed.

Her life, and her brave actions, reminded each and every one of us of our personal responsibilities to stand up for what is right and the central truth of the American experience that our greatness as a nation derives from seemingly ordinary people doing extraordinary things.

Rosa Parks' life was a lesson in perseverance. As a child, she grew up listening to the Ku Klux Klan ride by her house and lying in bed at night fearing that her house would be burnt down. In her small hometown in Alabama, she attended a one-room school for African American children that only went through the sixth grade. When she moved to Montgomery, Alabama, to continue her schooling, she was forced to clean classrooms after school to pay her tuition. Although she attended Alabama State Teachers College, Rosa Parks would later make her living as a seamstress and housekeeper.

...

Of course, her name became permanently etched in American history on December 1, 1955, when she was arrested for refusing to give up her seat to a white passenger on a Montgomery bus. It wasn't the first time Rosa Parks refused to acquiesce to the Jim Crow system. The same bus driver who had her arrested had thrown her off a bus the year before for refusing to give up her seat.

Some schoolchildren are taught that Rosa Parks refused to give up her seat because her feet were tired. Our nation's schoolbooks are only getting it half right. She once said: "The only tired I was, was tired of giving in."

This solitary act of civil disobedience became a call to action. Her arrest led a then relatively unknown pastor, Martin Luther King, Jr., to organize a boycott of the Montgomery bus system. That boycott lasted 381 days and culminated in a landmark Supreme Court decision finding that the city's segregation policy was unconstitutional.

This solitary act of civil disobedience was also the spark that ignited the beginning of the end for segregation and inspired millions around the country and ultimately around the world to get involved in the fight for racial equality.

STOP

END OF EXAM

AP Capstone Tips for Students

1. Be prepared to perform your best on AP Exams! Your academic performance provides evidence of your academic achievements as a result of your hard work in AP.
2. Send your AP Exam scores! During AP Exam registration, be sure to indicate the code for the colleges you want to receive your scores. This alerts them of your interest as a potential applicant and invites college recruiters to reach out to you to learn more about your AP Capstone experience and future research interests. The volume of AP scores received by postsecondary campuses helps drive support for credit and placement policies.
3. Indicate your participation in AP Capstone and your future research interests in college applications. It might prompt further consideration of your application and may even yield a scholarship possibility.
4. Be prepared to succinctly describe your AP Capstone experience and a summary of your research and findings. This brief conceptual summary will help you advocate for college credit/placement and allow you to capture the attention of colleges offering undergraduate research opportunities that you may want to further explore.
5. Check the AP Capstone website for more information about the colleges and universities that support the AP Capstone program and offer credit/placement for qualifying scores in AP Seminar and AP Research.

AP Seminar Glossary

alignment — Cohesion between the focus of an inquiry, the method of collecting information, the process of analysis of the information, and the conclusions made to increase understanding of that focus

argument — A claim or thesis that conveys a perspective developed through a line of reasoning and supported by evidence

assumption — A belief regarded as true and often unstated

author — One who creates a work (e.g., article; research study; foundational, literary, or philosophical text; speech, broadcast, or personal account; artistic work or performance) that conveys a perspective and can be examined

bias — A personal opinion, belief, or value that may influence one's judgment, perspective, or claim

claim — A statement made about an issue that asserts a perspective

commentary — Discussion and analysis of evidence in relation to the claim which may identify patterns, describe trends, and/or explain relationships

complex issue — Issue involving many facets or perspectives that must be understood in order to address it

concession — Acknowledgment and acceptance of an opposing or different view

conclusion — Understanding resulting from analysis of evidence

context — The intent, audience, purpose, bias, situatedness, and/or background (larger environment) of a source or reference

conventions — The stylistic features of writing (e.g., grammar, usage, mechanics)

counterargument — An opposing perspective, idea, or theory supported by evidence

credibility — The degree to which a source is believable and trustworthy

cross-curricular — Goes beyond the traditional boundary of a single content area or discipline

deductive — A type of reasoning that constructs general propositions that are supported with evidence or cases

evidence — Information (e.g., data, quotations, excerpts from texts) used as proof to support a claim or thesis

fallacy — Evidence or reasoning that is false or in error

implication — A possible future effect or result

inductive — A type of reasoning that presents cases or evidence that lead to a logical conclusion

inquiry — A process for seeking truth, information, or knowledge through a study, research investigation, or artistic endeavor/work

interdisciplinary — Involving two or more areas of knowledge

issue — Important problem for debate or discussion

lens — Filter through which an issue or topic is considered or examined

limitation — A boundary or point at which an argument or generalization is no longer valid

line of reasoning — Arrangement of claims and evidence that leads to a conclusion

literature — The foundational and current texts of a field or discipline of study

perspective — A point of view conveyed through an argument

plagiarism — Failure to acknowledge, attribute, and/or cite any ideas or evidence taken from another source

point of view — A position or standpoint on a topic or issue

primary source — An original source of information about a topic (e.g., study, artifact, data set, interview, article)

qualification — A condition or exception

qualitative — Having to do with text, narrative, or descriptions

quantitative — Having to do with numbers, amounts, or quantities

rebuttal — Contradicting an opposing perspective by providing alternate, more convincing evidence

refutation — Disproving an opposing perspective by providing counterclaims or counterevidence

reliability — The extent to which something can be trusted to be accurate

resolution — The act of solving a problem or dispute

scaffolding — The provision of temporary structured support for students to aid skill development

secondary source — A commentary about one or more primary sources that provides additional insight, opinions, and/or interpretation about the primary source data, study, or artifacts

sequencing — The organization of curriculum content into an order which progresses from simple to more complex

solution — A means of answering a question or addressing a problem or issue

text — Something composed (e.g., articles; research studies; foundational, literary, and philosophical texts; speeches, broadcasts, and personal accounts; artistic works and performances) that conveys a perspective and can be examined

thesis — A claim or position on an issue or topic put forward and supported by evidence

tone — The way in which an author expresses an attitude about his or her topic or subject through rhetorical choices

validity — The extent to which an argument or claim is logical

vocal variety — Changing vocal characteristics (e.g., pitch, volume, speed) in order to emphasize ideas, convey emotion or opinion, or achieve other specific purposes

About the Appendixes

The following pages include useful information and references for students, parents, educators, consultants or expert advisers, and colleges:

- ▶ **Appendix A: AP Seminar QUEST Framework**
A quick-reference list of the overarching AP Seminar Curriculum Framework big ideas and the essential questions associated with each.
- ▶ **Appendix B: AP Seminar Timeline**
A timeline for teachers and school administrators showing key dates and activities.

AP Seminar QUEST Framework



Question and Explore

Challenge and expand the boundaries of your current knowledge

- ▶ How does the context of a problem or issue affect how it is interpreted or presented?
- ▶ How might others see the problem or issue differently?
- ▶ What questions have yet to be asked?
- ▶ What voices or perspectives are missing from my research?
- ▶ What do I want to know, learn, or understand?
- ▶ How does my research question shape how I go about trying to answer it?
- ▶ What information do I need to answer my question?
- ▶ What keywords should I use to search for information about this topic?



Understand and Analyze

Contextualize arguments and comprehend authors' claims

- ▶ What strategies will help me comprehend a text?
- ▶ What is the argument's main idea and what reasoning does the author use to develop it?
- ▶ Why might the author view the issue this way?
- ▶ What biases may the author have that influence his or her perspective?
- ▶ Does this argument acknowledge other perspectives?
- ▶ How do I determine if a source is trustworthy?
- ▶ What are the implications of these arguments?
- ▶ How does this conclusion impact me and my community? Or my research?



Evaluate Multiple Perspectives

Consider individual perspectives and the larger conversation of varied points of view

- ▶ What patterns or trends can be identified among the arguments about this issue?
- ▶ What are the implications and/or consequences of accepting or rejecting a particular argument?
- ▶ How can I connect the multiple perspectives? What other issues, questions, or topics do they relate to?
- ▶ How can I explain contradictions within or between arguments?
- ▶ From whose perspective is this information being presented, and how does that affect my evaluation?



Synthesize Ideas

Combine knowledge, ideas, and your own perspective into an argument

- ▶ How do I connect and analyze the evidence in order to develop an argument and support a conclusion?
- ▶ What line of reasoning and evidence would best support my argument? Is my reasoning logical?
- ▶ Are there other conclusions I should consider?
- ▶ What am I taking for granted? How do I acknowledge and account for my own biases and assumptions?
- ▶ What is the best way to acknowledge and attribute the work of others that was used to support my argument?
- ▶ How can I avoid committing plagiarism?



Team, Transform, and Transmit

Collaborate, reflect, and communicate your argument in a method suited to your audience

- ▶ How can I best appeal to and engage my audience?
- ▶ What is the best medium or genre through which to engage my audience?
- ▶ What common misconceptions might my audience have?
- ▶ How might I adapt my argument for different audiences and situations?
- ▶ How might my communication choices affect my credibility with my audience?
- ▶ What contributions can I offer to a team?
- ▶ What is the benefit of revision?
- ▶ How can I benefit from reflecting on my own work?

AP Seminar Timeline

Academic Year 1 **AP Seminar instruction begins in the fall**

Date	Key Activity
August/September	Begin AP Seminar instruction
October 1	AP Seminar syllabus due to the College Board
January	AP Seminar teachers complete online scoring training for Performance Task 1: Team Project and Presentation Stimulus material is released for Performance Task 2: Individual Research-Based Essay and Presentation
January 31	Deadline for administrators to approve Course Audit forms
March	AP Seminar teachers complete online scoring training for Performance Task 2
April 30	Performance Tasks 1 and 2 scored by teachers and due to the College Board
May	Administer AP Seminar End-of-Course Exam
July	AP Seminar Score Reports released

Academic Year 2 **AP Research instruction begins in the fall**

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AP[®] Seminar Course and Exam Description, Effective Fall 2016

AP Seminar is the first course in the two-year sequence of AP Capstone™ — a program that allows students to explore real-world issues while developing the analytic, research, problem-solving, and communication skills that colleges look for in their applicants.

This course and exam description includes:

- AP Capstone Pedagogical Framework
- AP Seminar Curriculum Framework
- Reproducible AP Seminar End-of-Course Exam

For more information about AP Capstone, visit www.collegeboard.org/apcapstone

5117.4

Policy

Students

School Attendance Areas

Intradistrict Transfer Students

Students who attend a District school identified under the ~~No Child Left Behind Act of 2001~~ [Every Student Succeeds Act \(ESSA\)](#) for improvement, corrective action or restructuring may, as required by law, transfer to another public school in the District which has not been identified for improvement or as persistently dangerous. Building capacity and proximity for transportation will be determining factors in transfer decisions. Priority will be given to the lowest achieving students from low income families, as required by law. Additionally, students who attend a District school identified as persistently dangerous, or who are victims of a violent criminal offense occurring in or on the grounds of the school the student attends, may transfer to a safe public school in the district that has not been identified as in need of improvement.

The District will provide transportation to these students.

Interdistrict Transfer of Resident Students

The Board recognizes that resident students under the Individuals with Disabilities Act (IDEA) remain the primary responsibility of the District. District consideration of transfer requests for students under IDEA will meet the requirements of state and federal law.

Additionally, the Superintendent may, to the extent practicable, establish a cooperative agreement for transfer, including transportation, with one or more districts in the area, to meet the requirements of the ~~No Child Left Behind Act of 2001 (NCLBA)~~, [Every Student Succeeds Act](#) as follows:

1. The student attends a District school identified for improvement, corrective action or restructuring. The student may remain in the new school until the student has completed the highest grade in the new school;
2. The student has been a victim of a violent criminal offense occurring in or on the grounds of a school the student attends or the student attends a school identified as persistently dangerous, if there are no appropriate District schools available;
3. A homeless student residing in the District will be permitted to attend his/her school of origin out-of-district as required by law.

Transfers approved for ~~NCLB~~ [ESSA](#) purposes must be to a safe school not identified as in need of improvement.

The Superintendent is directed to establish procedures for the review of student requests to attend school in another school district.

(cf. [5117](#) – School Attendance Areas)

(cf. 5117.1 – Intra-district Choice/Open Enrollment)

(cf. 5117.2 – Inter-district Choice)

(cf. [5118.1](#) – Homeless Students⁰)

Legal Reference: Connecticut General Statutes

[10-55](#) Pupils to attend regional school

[10-221e](#) Intradistrict student assignment program

[10-226a](#) Pupils of racial minorities

[10-226b](#) Existence of racial imbalance

[10-226c](#) Plan to correct imbalance

[10-226d](#) Approval of plan by State Board

[10-266aa](#) Statewide interdistrict public school attendance program.

20 U.S.C. - No Child Left Behind Act, P.L. 107-110, Section 1116.

No Child Left Behind Act, P.L. 107-110 – Title IX, Section 9532

McKinney-Vento Homeless Education Assistance Improvements Act of 2001, P.L. 107-110, 42 U.S.C. §11431-11435

[Every Student Succeeds Act of 2015](#)

Policy adopted: January 3, 2007

5117.5

Policy

STUDENTS

School Attendance Areas – Racial Balance

The Bristol Board of Education is committed to maintaining racial balance within all its schools and programs and is determined to provide quality education and equal educational opportunities for all students regardless of their race, ethnic background or economic backgrounds, in accordance with State and Federal laws. The overriding focus is to reduce racial, ethnic and economic isolation.

The Bristol Board of Education firmly believes that a racially balanced student body is an important component of quality education. The Board realizes that the imbalanced concentration of racial groupings in school, from whatever cause, may be a factor which inhibits the educational development of the children involved and that the existence of racial imbalance is inconsistent with the democratic principle of ~~equity~~ in equitable educational opportunity.

The Board also recognizes that the solution to racial imbalance is a matter of total community concern and one in which the parents, students and staff of all schools must accept responsibility. If one or more district schools are in racial imbalance, a plan will be developed to correct the imbalance through the redistricting of school area boundaries or through a voluntary transfer program.

Legal Reference: Connecticut General Statutes: 10-226b-e Existence of Racial Imbalance

Policy Adopted: July 6, 2011

Students

Homeless Students

The Board shall make reasonable efforts to identify homeless children and youths within the district, encourage their enrollment in school and eliminate existing barriers to their education, which may exist in district policies or practices, in compliance with all applicable federal and state laws.

The District administration shall attempt to remove existing barriers to school attendance by homeless children or youth, which may include:

- A. Records** – The selected school for the homeless student shall enroll the child or youths even in the absence of records normally required for enrollment. The last school in which the student was enrolled shall be contacted to obtain records.
- B.** Other enrollment requirements that may constitute a barrier to the education of the homeless child or youth may be waived at the discretion of the Superintendent.
- C. Grade Level Placement** – If the District is unable to determine the student’s grade level due to missing or incomplete records, the District shall administer tests or utilize other reasonable means to determine the appropriate grade level for the child.
- D.** Fees and charges, which may present a barrier to the enrollment or transfer of a homeless child or youth, shall be waived.
- E.** Transportation services must be comparable to those provided other students in the selected school. Transportation shall be provided to the student’s school of origin in compliance with federal and state regulations.
- F.** Official school records, policies, and regulations shall be waived at the discretion of the Superintendent, in compliance with federal and state regulations.
- G. Immunization Records** – The District shall make a reasonable effort to locate immunization records from information available. The District’s liaison shall assist the parent/guardian in obtaining the necessary immunizations and records. The District shall arrange for students to receive immunizations through health agencies and at District expense if no other recourse is available. Immunizations may, however, be waived for homeless youth only in accordance with provisions of Board of Education policy on immunizations.
- H.** Other barriers to school attendance by homeless children or youth may be waived at the discretion of the Superintendent of Schools.

Further, it is the policy of the Board of Education that no child or youth shall be discriminated against or stigmatized in this school district because of homelessness. Homeless students, as defined by federal and state statutes, residing within the district or residing in temporary shelters in the district are entitled to free school privileges.

Students

Homeless Students (continued)

Homeless students shall not be separated from the mainstream school environment on the basis of their homelessness. Such students shall have access to education and other services they need to meet the same challenging State academic standards to which all students are held.

Homeless students within the district not placed in a shelter remain the district's responsibility to provide continued educational services. Such services for the child may be:

1. continued in the school ("school of origin") that the student attended when permanently housed or the school of last enrollment; or
2. provided in the school that is attended by other students living in the same attendance area where the homeless child lives.

To the extent feasible, a homeless child will be kept in the school of origin, unless it is against the wishes of the parent/guardian. If placement in the school of origin is not feasible, the homeless student must be placed in the school that is attended by other students living in the same attendance area in which the homeless child lives.

The District will provide a written explanation, including the right to appeal, whenever the District sends a homeless student to a school other than the school of origin, a school requested by the parent/guardian or unaccompanied youth.

Homeless children shall be provided educational services that are comparable to those provided to other students enrolled in the District, including but not limited to, Title I, transportation services, compensatory educational programs, gifted and talented, special education, ESL, health services and food and nutrition programs, and preschools operated by the District, if they meet the established criteria for these services.

The Superintendent of Schools shall refer identified homeless children under the age of eighteen who may reside within the school district, unless such children are emancipated minors, to the Connecticut Department of Children and Families (DCF).

The district administration shall attempt to remove existing barriers to school attendance by homeless emancipated minors and youth eighteen years of age:

1. The selected school for the homeless child shall enroll the child, even in the absence of records normally required for enrollment. The last school enrolled shall be contacted to obtain records.
2. Other enrollment requirements that may constitute a barrier to the education of the homeless child or youth may be waived at the discretion of the Superintendent. If the district is unable to determine the student's grade level due to missing or incomplete records, the district shall administer tests or utilize other reasonable means to determine the appropriate grade level for the child.

Students

Homeless Students (continued)

3. Fees and charges, which may present a barrier to the enrollment or transfer of a homeless child or youth, may be waived at the discretion of the Superintendent.
4. Transportation services must be comparable to those provided other students in the selected school. Transportation shall be provided to the student's school of origin in compliance with federal and state regulations. If the school of origin is in a different school district from where the homeless child or youth is currently living, both school districts shall agree on a method for sharing the responsibility and costs, or share the costs equally.
5. Official school records policies and regulations shall be waived at the discretion of the Superintendent, in compliance with federal statutes.
6. The district shall make a reasonable effort to locate immunization records from information available. The District's liaison shall assist the parent/guardian in obtaining the necessary immunizations and records. The District shall arrange for students to receive immunizations through health agencies and at District expense if no other recourse is available. Immunizations may, however, be waived for homeless youth only in accordance with provisions of Board of Education policy on immunizations.
7. The Board will provide any homeless student, who is not in the physical custody of a parent/guardian, full access to his/her educational records, including medical records, in the Board's possession.
8. Other barriers to school attendance by homeless children or youth may be waived at the discretion of the Superintendent of Schools.
9. The District will treat information about a homeless child or youth's living situation as a student education record subject to the protections of the Family Educational Rights and Privacy Act (FERPA). Such information shall not be deemed to be directory information.

The District's educational liaison for homeless children is the Director of the Office of Teaching and Learning. The liaison must assist homeless children and youth, as described within the administrative regulations, in the placement/enrollment decisions, considering the youth's wishes and provide notice of appeal under the Act's enrollment disputes provisions. The liaison shall also participate in State provided professional development programs for local liaisons.

Students residing in a temporary shelter are entitled to free school privileges from the district in which the shelter is located or from the school district where they would otherwise reside if not for the placement in the temporary shelter. The district in which the temporary shelter is located shall notify the district where the student would otherwise be attending. The district so notified may choose to either:

1. continue to provide educational services, including transportation between the temporary shelter and the school in the home district; or
2. pay tuition to the district in which the temporary shelter is located.

P5118.1(d)

Students

Homeless Students (continued)

The Superintendent shall develop regulations, to ensure compliance with applicable statutes in the implementation of this policy.

(cf. 5143 - Student Health Assessments and Immunizations)

(cf. 5146 - Child Abuse and Neglect)

Legal Reference: Connecticut General Statutes

10-253(e) School privileges for children in certain placements, non-resident children and children in temporary shelters. (as amended by PA 17-194)

17a-101 Protection of children from abuse. Reports required of certain professional persons. When child may be removed from surroundings without court order.

17a-103 Reports by others.

17a-106 Cooperation in relation to prevention, identification and treatment of child abuse and neglect.

46b-120 Definitions.

PA 17-194 An Act Concerning Access to Student Records for Certain Unaccompanied Youths

McKinney-Vento Homeless Assistance Act, (PL 107-110-Sec 1032) 42 U.S.C. §11431-11435, as amended by the ESSA, P.L. 114-95.

Federal Register: McKinney-Vento Education for Homeless Children and Youths Program, Vol. 81, No. 52, 3/17/2016.

Federal Family Educational Rights and Privacy Act of 1974 (section 438 of the General Education Provisions Act, as amended, added by section 513 of P.L. 93-568, codified at 20 U.S.C. 1232g.)

Dept. of Educ. 34 C.F.R. Part 99 (May 9, 1980 45 FR 30802) regs. Implementing FERPA enacted as part of 438 of General Educ. Provisions Act (20 U.S.C. 1232g) parent and student privacy and other rights with respect to educational records, as amended 11/21/96, and Final Rule 34 CFR Part 99, December 9, 2008, December 2, 2011.

Policy adopted:

Students

Student Records; Confidentiality

Educational records, defined as records directly related to a student, will be kept for each student and will reflect the physical, emotional, social and academic aspects of a student's development in the educational process.

The Board of Education recognizes the need to comply with the legal state and federal requirements regarding the confidentiality, access to and amendment of student records. The procedures for the confidentiality of student records shall be consistent with federal statutes, including the Family Educational Rights and Privacy Act of 1974 (FERPA), as amended, and its implementing and revised regulations and the Connecticut General Statutes.

Safeguards shall be established by the school administration to protect the student and the student's family from invasion of privacy in the collection, maintenance and dissemination of information, and to provide accessibility to recorded information by those legally entitled thereto. Access to inspect or review a student's educational record or any part thereof may include the right to receive copies under limited circumstances.

For the purposes of this policy:

“Parent” means a natural parent, an adopted, or a legal guardian or an individual acting as a parent in the absence of a parent or guardian. If parents are divorced or legally separated the parent granted custody and the parent not granted custody of a minor child both have the right of access to the academic, medical, hospital, or other health records of the child, unless a court order prohibits access. Whenever a student has attained the age of 18 years or is attending an institution of post-secondary education, the permission or consent required of, and the rights accorded to, the parents or guardians of the student shall thereafter only be required of, and accorded to, the student. A parent who is incarcerated is also entitled to knowledge of and access to all educational, medical or similar records maintained in the cumulative record of any minor student of such incarcerated parent except in situations (1) where such information is considered privileged as defined in C.G.S. 10-154a, (2) such incarcerated parent has been convicted of sexual assault, or aggravated sexual assault, or (3) such incarcerated parent is prohibited pursuant to a court order.

“Student” means an individual who is or has been “in attendance” in person at an educational agency or institution for whom education records are maintained. It also includes those situations in which students “attend” classes but are not physically present, including attendance by videoconference, satellite, Internet, or other electronic information and telecommunication technologies.

“Student record” means any item of information directly related to an identifiable student, other than directory information, which is maintained by a school district or required to be maintained by an employee in the performance of his/her duties whether recorded in handwriting, print, computer media, video or audio tape, film, microfilm and microfiche. Student records include information relative to an individual student gathered within or without the school system and maintained within the school system, regardless of the physical form in which it is maintained.

Students

Student Records; Confidentiality (continued)

“Student record” (continued) Student records include any information maintained for the purpose of review by a second party is considered a student record. Records that pertain to an individual’s previous attendance as a student are “education records” under FERPA regardless of when they were created or received within the school system. Student records shall not include informal notes related to a student compiled by a school officer or employee which remain in the sole possession of the maker and are not accessible or revealed to any other person except a substitute. Records of the law enforcement unit of the District or school are not considered student records.

“Law Enforcement Unit” means an individual office, department, division, or other component of an education agency or institution that is officially authorized or designated by that agency or institution to (1) enforce laws or refer matters of law enforcement to appropriate authorities, or (2) maintain the physical security and safety of the agency or institution.

“Substitute” means a person who performs the duties of the individual who made the notes on a temporary basis, and does not refer to a person who permanently succeeds the maker of the notes in his or her position.

“School Official” means a person employed by the District as an administrator, supervisor, instructor, or support staff member, including health or medical staff and law enforcement unit personnel, a person serving on the Board of Education, a person or company with whom the district has contracted to perform a special task (such as an attorney, auditor, medical consultant, or therapist), or a parent or student serving on an official committee such as a disciplinary or grievance committee, or assisting another school official in performing his/her tasks.

“Authorized Representative” means any entity or individual designated by a state or local educational authority or an agency headed by an official listed in §99.31(a)(3) to conduct with respect to Federal or State-supported education programs, any audit or evaluation, or any compliance or enforcement activity in connection with Federal legal requirements that relate to these programs.

“Education Program” means any program that is principally engaged in the provision of education, including, but not limited to, early childhood education, elementary and secondary education, postsecondary education, special education, job training, career and technical education and adult education, and any program that is administered by an educational agency or institution.

“Early Childhood Education Program” means a Head Start program, a state licensed or regulated child care program, or a program that serves children from birth through age six that addresses the children’s cognitive, social, emotional and physical development and is a (i) state prekindergarten program; (ii) a program authorized under the Individuals with Disabilities Education Act; or (iii) is a program operated by a local educational agency.

Students

Student Records; Confidentiality (continued)

“Directory Information” means information contained in a student’s education record that would not generally be considered harmful or an invasion of privacy if disclosed. Directory information includes, but is not limited to, one or more of the following items: parent’s name and/or e-mail address, student’s name, address, telephone number, date and place of birth, major field(s) of study, participation in officially recognized activities and sports, photographic, computer and/or video images, grade levels, electronic mail address, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous public or private school attended by the student.

A student’s social security number or student ID number is prohibited from designation as directory information. However, student ID numbers and other electronic personal identifiers used to access or communicate in electronic systems may be disclosed only if the identifier is not used by itself to authenticate identity and cannot be used to gain access to education records.

A student’s ID number or other unique personal identifier that is displayed on a student ID badge is considered directory information, but only if the identifier cannot be used to gain access to education records except when used in conjunction with one or more factors that authenticate the user’s identity, such as a PIN, password, or other factor known or possessed only by the authorized user.

The Superintendent shall be responsible for ensuring that all requirements under federal and state statutes shall be carried out by the district. He/She will develop procedures (administrative regulations) providing for the following:

1. Annually informing parents of their rights.
2. Permitting parents to inspect and review educational records, including, at least, a statement of the procedure to be followed by a parent or eligible student who requests to inspect and review the educational records, with an understanding that the procedure may not deny access to educational records; a description of the circumstances in which the district feels it has a legitimate cause to deny a request for a copy of such records; a schedule of fees for copies; and a listing of the types and locations of education records maintained by the school and the titles and addresses of school officials responsible for those records.
3. Not disclosing personally identifiable information from a student’s education records without the prior written consent of the student’s parent, except as otherwise permitted by administrative regulations; including at least a statement of whether the school will disclose personally identifiable information from the records to other school officials within the school who have been determined by the school to have legitimate educational interests, and, if so, a specification of the criteria for determining which parties are “school officials” and what the school considers to be a “legitimate educational interest”; and a specification of the personally identifiable information to be designated as directory information.

Students

Student Records; Confidentiality (continued)

4. Maintaining the record of disclosures of personally identifiable information from a student's education records and permitting a parent to inspect that record.
5. Providing a parent/guardian with an opportunity to seek the correction of the student's education records through a request to amend the records. If the District decides that an amendment of the records as requested is not warranted, to inform the parent/guardian or eligible student and advise him/her of the right to a hearing and permitting the parent/guardian or an eligible student to place a statement in the education records of the student.
6. Guaranteeing access to student records to authorized persons within five days following the date of request.
7. Assuring security of student records.
8. Enumerating and describing the student records maintained by the school system.
9. Annually informing parents under what conditions that their prior consent is not required to disclose information.
10. Ensuring the orderly retention and disposition, per applicable state statutes, of the district's student records.
11. Notifying parents of secondary school students that it is required to release the student's name, address and telephone listing to military recruiters and institutions of higher learning upon request. Parents or eligible students may request that the District not release this information, and the District will comply with the request.
12. Notifying parents annually of the District's policy on the collection or use of personal information collected from students for the purpose of marketing or selling that information or otherwise providing that information to others for that purpose, including arrangements to protect student privacy that are provided by the agency in the event of such collection, disclosure or use.

Legal Reference: Connecticut General Statutes

1-19(b)(11) Access to public records. Exempt records.

7-109 Destruction of documents.

10-15b Access of parent or guardians to student's records. (as amended by PA 17-68, Section 4)

10-154a Professional communications between teacher or nurse & student.

Students

Student Records; Confidentiality

Legal Reference: Connecticut General Statutes (continued)

10-209 Records not to be public.

10-221b Boards of education to establish written uniform policy re: treatment of recruiters.

11-8a Retention, destruction and transfer of documents

11-8b Transfer or disposal of public records. State Library Board to adopt regulations.

46b-56 (e) Access to Records of Minors.

Connecticut Public Records Administration Schedule V - Disposition of Education Records (Revised 1983).

Federal Family Educational Rights and Privacy Act of 1974 (section 438 of the General Education Provisions Act, as amended, added by section 513 of P.L. 93-568, codified at 20 U.S.C.1232g.).

Dept. of Educ. 34 C.F.R. Part 99 (May 9, 1980 45 FR 30802) regs. implementing FERPA enacted as part of 438 of General Educ. provisions act (20 U.S.C. 1232g)-parent and student privacy and other rights with respect to educational records, as amended 11/21/96, and Final Rule 34 CFR Part 99, December 9, 2008, December 2, 2011)

USA Patriot Act of 2001, PL 107-56, 115 Stat. 272, Sec 507, 18 U.S.C. §2332b(g)(5)(B) and 2331

Owasso Independent Sch. Dist. No.1-011 v. Falvo, 534 U.S.426 (2002)

P.L. 112-278 “The Uninterrupted Scholars Act”

Policy adopted:

rev. 4/09

rev. 4/12

rev. 3/13

rev 4/17

rev 6/17

Students

Student Records; Confidentiality

Definitions

As used in this regulation:

1. **“Student”** means an individual who is or has been “in attendance” in person at an educational agency or institution for whom education records are maintained. It also includes those situations in which students “attend” classes but are not physically present, including attendance by videoconference, satellite, Internet, or other electronic information and telecommunication technologies.
2. **“Student Record”** means any item of information directly related to an identifiable student, other than directory information, which is maintained by the school district or required to be maintained by an employee in the performance of his/her duties whether recorded by handwriting, print, computer media, video or audio tape, film, microfilm and microfiche. Student records include information relative to an individual student gathered within or without the school system and maintained within the school district, regardless of the physical form in which it is maintained. Any information which is maintained for the purpose of review by a second party is considered a student record.

“Student Record” shall not include informal notes related to a student compiled by a school officer or employee which remain in the sole possession of the maker and are not accessible or revealed to any other person except a substitute for the maker of the record. Employment records used only in relation to a student’s employment by the district are not considered student records. In addition student records do not include alumni records that contain information about the student after the student is no longer in attendance, records maintained by a law enforcement unit of an educational agency or institution that were created by that unit for the purpose of law enforcement or records of an eligible student that are maintained by a physician, psychologist, professional or paraprofessional made in connection with the treatment of the student and disclosed only to individuals providing such treatment.

“Substitute” means a person who performs the duties of the individual who made the notes on a temporary basis, and does not refer to a person who permanently succeeds the maker of notes in his or her position. Medical records are not open to public inspection.

“Post-enrollment Records” means that records that pertain to an individual’s previous attendance as a student are “education records” under FERPA regardless of when they were created or received by the institution.

Students

Student Records; Confidentiality

Definitions (continued)

3. **“Directory Information”** means information contained in a student’s education record that would not generally be considered harmful or an invasion of privacy if disclosed. Directory information includes, but is not limited to, one or more of the following items: parent’s name and/or e-mail address, student’s name, address, telephone number, date and place of birth, major field(s) of study, participation in officially recognized activities and sports, photographic, computer and/or video images, grade levels, electronic mail address, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous public or private school attended by the student.

A student’s Social Security Number or student ID number is prohibited from designation as directory information. However, student ID numbers and other electronic personal identifiers used to access or communicate in electronic systems may be disclosed only if the identifier is not used by itself to authenticate identity and cannot be used to gain access to education records.

A student’s ID number or other unique personal identifier that is displayed on a student ID badge is considered directory information, but only if the identifier cannot be used to gain access to education records except when used in conjunction with one or more factors that authenticate the user’s identity, such as a PIN, password, or other factor known or possessed only by the authorized user.

4. **“Parent”** means a natural parent, an adopted parent, or legal guardian or an individual acting as a parent in the absence of a parent or guardian. If parents are divorced or legally separated, both the parent granted custody and the parent not granted custody have the legal right of access to the academic, medical, hospital or other health records of the child, unless a court order prohibits access.

Whenever a student has attained eighteen (18) years or is attending an institution of post-secondary education, the permission or consent required of, and the rights accorded to, the parents or guardian of the student shall thereafter only be required of, and accorded to, the student, unless parents of a student eighteen (18) years of age or older who is a dependent as defined in Section 152 of the Internal Revenue Code of 1956.

5. **“School Official”** means a person employed by the district as an administrator, supervisor, instructor or support staff member, including health or medical staff and law enforcement unit personnel, a person serving on the Board of Education, a person or company with whom the district has contracted to perform a special task (such as an attorney, auditor, medical consultant, or therapist), or a parent or student serving on an official committee such as a disciplinary or grievance committee, or assisting another school official in performing his/her tasks.

Students

Student Records; Confidentiality

Definitions (continued)

6. **“Disclosure”** means to permit access to or the release, transfer, or other communication of personally identifiable information contained in education records, to any party, by any means including oral, written, or electronic means. It is also permitted to return an educational record to the provider or creator of the record, including the return of a questionable document to the purported sender for verification of information in the document.
7. **“Personally Identifiable Information”** includes but is not limited to the student’s name, the name of the student’s parent or other family member, the address of the student or student’s family, a personal identifier such as the student’s Social Security Number or student number, or “biometric records” (a record of one or more measurable biological or behavioral characteristics that can be used for automated recognition of an individual, including fingerprints, retina and iris patterns, voice prints, DNA sequence, facial characteristics and handwriting), a list of personal characteristics or indirect identifiers, such as the name of the student’s parent or other family members and the date and place of birth and mother’s maiden name, or other information that would allow a reasonable person in the school or community who does not have personal knowledge of the relevant circumstances, to identify the student with reasonable certainty.
8. **“Record”** means any information recorded in any way, including, but not limited to, handwriting, print, computer media, video or audio tape, film, microfilm and microfiche.
9. **“Access”** means a personal inspection and review of a record or an accurate copy of a record, an oral description or communication of a record or an accurate copy of a record and a request to release a copy of any record.
10. **“Student”** means a person who is or was enrolled in a school.
11. **“Adult student”** means a person who is or was enrolled in school and who is at least eighteen (18) years of age.
12. **“Eligible Student”** means a student or former student who has reached eighteen years (18) of age or who is attending an institution of post-secondary education or is an emancipated minor.
13. **“Law Enforcement Unit”** means an individual office, department, division, or other component of an education agency or institution that is officially authorized or designated by that agency or institution to (1) enforce laws or refer matters of law enforcement to appropriate authorities, or (2) maintain the physical security and safety of the agency or institution.
14. **“Legitimate Education Interest”** means the need for a school official to review an educational record in order to fulfill his/her professional responsibilities.

Students

Student Records; Confidentiality

Definitions (continued)

15. **“Signed and Dated Waiver Consent”** means signed and dated written consent to disclose personally identifiable student information from a student’s records must specify the records to be disclosed, the purpose of disclosure and the party to whom such records should be provided. Consent may include a record and signature in electronic form provided that the consent identifies and authenticates a particular person as the source of consent.
16. **“Authorized Representative”** means any entity or individual designated by a state or local educational authority or an agency headed by an official listed in §99.31(a)(3) to conduct with respect to Federal or State-supported education programs, any audit or evaluation, or any compliance or enforcement activity in connection with Federal legal requirements that relate to these programs.
17. **“Education Program”** means any program that is principally engaged in the provision of education, including, but not limited to, early childhood education, elementary and secondary education, postsecondary education, special education, job training, career and technical education and adult education, and any program that is administered by an educational agency or institution.
18. **“Early Childhood Education Program”** means a Head Start program, a state licensed or regulated child care program, or a program that serves children from birth through age six that addresses the children’s cognitive, social, emotional and physical development and is a (i) state prekindergarten program; (ii) a program authorized under the Individuals with Disabilities Education Act; or (iii) is a program operated by a local educational agency.

Types of Records

The school district shall maintain only the following three categories of records:

1. **“Mandatory Permanent Student Records”** are those records which are maintained in perpetuity (at least 50 years) and which schools have been directed to compile by statute, regulation, or authorized administrative directive. Such records shall include the following:
 - A. Legal name of student, address, gender of student
 - B. Date of birth, place of birth
 - C. Method of verification of birth date

Students

Student Records; Confidentiality

Types of Records (continued)

- D. Name and address of parent of minor student
 - (1) Address of minor student if different than the above
 - (2) An annual verification of the name and address of the parent and the residence of the student
 - E. Entering and leaving date of each school year and for any summer session or other extra session
 - F. Subjects taken during each year, half-year, summer session, or quarter
 - G. Academic achievement (grades, transcripts)
 - H. Level of academic achievement (class standing/academic level)
 - I. If marks or credit are given, the mark or number of credits toward graduation allowed for work taken
 - J. Verification or exemption from required immunizations
 - K. Date of high school graduation or equivalent
 - L. Student activities and significant awards
2. **“Mandatory Interim Student Records”** are those records which the schools are directed to compile and maintain for stipulated periods of time and are then destroyed as per statute, regulations (6 years following the student’s graduation, or the graduation of the class to which he/she belonged, after appropriate notification to parents and/or eligible students via media and an opportunity provided to copy said records), or authorized administrative directive. Such records include the following:
- A. A log or record shall be maintained for each student's record which lists all persons, agencies or organizations requesting or receiving information from the record, and the legitimate interests therefor. (Exception from listing, see **Access Log, #2.**)
 - B. Health information, including Child Health Developmental Disabilities Prevention Program verification or waiver. (Comprehensive Health Record)
 - C. Participation in special education programs including required tests, case studies, authorizations, and actions necessary to establish eligibility for admission or discharge.

Students

Student Records; Confidentiality

Types of Records (continued)

- D. Language training records.
- E. Progress slips and/or notices.
- F. Parental restrictions regarding access to directory information or related stipulations.
- G. Parent or adult student rejoinders to challenged records and to disciplinary action.
- H. Parental authorizations or prohibitions of student participation in specific programs.
- I. Results of standardized tests administered within the preceding three years.

Note: Disciplinary records of suspension and expulsion are subject to being expunged according to state and federal statutes.

3. **“Permitted Records”** are those records having clear importance only to the current educational process of the student. Such records may be destroyed after 6 years following the student’s graduation, or the graduation of the class to which he/she belonged, after appropriate notification to parents and/or eligible students via media and an opportunity provided to copy said records. Such records may include the following:

- A. Objective counselor and/or teacher ratings
- B. Standardized test results older than three years
- C. Routine discipline data
- D. Verified reports of relevant behavioral patterns
- E. All disciplinary notices

Maintenance and Security of Student Records

1. Custodian of Records

- A. The Director of Special Services is hereby designated as custodian of student records. The address of the custodian is ***Director of Special Services, 129 Church St. Bristol, CT 06011.***

- (1) The custodian is charged with district-wide responsibility for implementing Board of Education policies and administrative regulations relating to student records.

Students

Student Records; Confidentiality

Maintenance and Security of Student Records (continued)

1. Custodian of Records (continued)

- (2) The custodian shall be responsible for security of student records and shall devise procedures for assuring that access to such records is limited to authorized persons.
 - (3) The custodian of records or a designated certified employee shall be responsible during the inspection for interpretation of the records where necessary and for prevention of their alteration, damage or loss.
- B. In each school, the principal, or a certified employee designated by the principal, is responsible for implementation of Board of Education policies and administrative regulations relating to student records maintained in that school.

2. Files

- A. A record for each individual student shall be maintained in a central file at the school attended by the student, or when records are maintained in different locations, a notation shall be placed in the central file indicating where such records may be found.
- B. Student records shall be stored in locked containers (files) or rooms.

3. Information

- A. All anecdotal information and assessment reports maintained as student records must be dated and signed by the individual who originated the record. Each school principal shall keep on file a record of enrollment and scholarship for each student currently enrolled in that school.

Access to Student Records

1. School Officials

- A. School officials, as defined, have access to students' educational records without consent, if the official has been determined to have a legitimate educational interest in the records. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his/her professional responsibility.
- B. Contractors, consultants, volunteers, and other parties to whom a school has outsourced services or functions are considered "school officials" who may have access to student records, without parental consent, if the following conditions are met:

Students

Student Records; Confidentiality

Access to Student Records (continued)

1. School Officials (continued)

- The party is under the direct control of the school.
 - The party is subject to the same conditions governing the use and redisclosure of education records applicable to other school officials.
 - The contractor must ensure that only individuals with legitimate educational interests, as determined by the district or school, obtain access to the education records. The contractor may not redisclose personally identifiable information without consent unless the district or school has authorized the redisclosure under a FERPA exception and the district or school records the subsequent disclosure.
- C. The district or school may not disclose education records to an outside service provider unless it has specified in its annual FERPA notification to parents/students that it uses contractors, consultants, volunteers, as “school officials” to provide certain institutional services and functions.
- D. In controlling access to education records by school officials and outside service providers, schools must:
- (1) Use “reasonable methods” to ensure an official is given access to only those education records, paper or electronic, in which the official has a legitimate educational interest.
 - (2) Schools may use such methods as:
 - Physical controls such as locked filing cabinets;
 - Technological controls such as role-based access controls for electronic records;
 - Administrative policies, in lieu of physical or technological controls. Such policies must be effective in controlling access.

Students

Student Records; Confidentiality

Access to Student Records (continued)

2. Parents

- A. Parents of currently enrolled or former students shall have an absolute right during regular business hours to access to any and all student records related to their children which are maintained by the district. Neither the student record, nor any part thereof, shall be withheld or edited. If the student records contain information on more than one student, the parent may inspect and review or be informed of only the specific information which pertains to that student.
- B. A parent or guardian's request for access to student records shall be made in writing to the custodian of student records. Access shall be granted no later than forty-five (45) days following the date of the request.
- C. A requesting parent shall be notified of the location of all student records, if not centrally located.
- D. When a parent's dominant language is not English, the district shall make an effort to
 - (1) provide interpretation of the student record in the dominant language of the parent, or
 - (2) assist the parent in securing an interpreter.

3. Parental Consent

- A. The custodian of student records may permit access to student records during regular school hours (a) to any person for whom a student's parent has executed written consent specifying the records to be released and identifying the party or class of parties to whom the records may be released; or (b) to the student if he/she is an eligible student, or has entered a post secondary educational institution.
- B. The recipient must be notified that the transmission of the information to others without the written consent of the parent is prohibited.
- C. The consent notices shall be kept permanently with the student record.
- D. Upon request, the district shall provide the parent/eligible student with a copy of the record which is disclosed. (34 CFR 9910, Rights of Inspection and Review)

Students

Student Records; Confidentiality

Access to Student Records (continued)

4. Without Parental Consent

A. No person or agent shall be permitted access to student records without written parental consent or under judicial order, except that access to those particular records relevant to the legitimate educational interests of the requester shall be permitted to the following:

- (1) Officials and employees of other public schools or school districts, including local, county, or state correctional facilities where educational programs leading to high school graduation are provided, where the student intends to or is directed to enroll. The authority of the district or school to transfer education records to a student's new school continues after actual enrollment so long as the disclosure is in connection with the student's enrollment. This ensures that a school may supplement, update, or correct records sent during the student's application or transfer period. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Note: Section 504 and Title II of the ADA generally prohibits post-secondary institutions from making pre-admission inquiries about an applicant's disability status. However, after admission, such institutions may request such information concerning a current student.

- (2) Authorized representatives of the Comptroller General of the United States, the Secretary of Education, an administrative head of an education agency, State Education Officials, or their respective designees, or the United States Office for Civil Rights where such information is necessary to audit or evaluate a state or federally supported education program or pursuant to a federal or state law; provided that except when collection of personally identifiable information is specifically authorized by federal law, any data collected by such officials shall be protected in a manner which will not permit the personal identification of students or their parents by other than those officials, and such personally identifiable data shall be destroyed when no longer needed for such audit, evaluation, and enforcement of federal legal requirements.
- (3) The U.S. Attorney General or his/her designee in response to a court issued ex parte order, under the USA Patriot Act, in connection with the investigation or persecution of an offense listed in U.S.C. 2332b(g)5(B) or an act of domestic or international terrorism crimes. The District, in response to such an order, is not required to record a disclosure of information, nor acquire consent or notice to the parent or student.

Students**Student Records; Confidentiality****Access to Student Records (continued)****4. Without Parental Consent (continued)**

- (4) Other state and local officials to the extent that such information is specifically required to be reported pursuant to state law.
- (5) Parents of a student eighteen (18) years of age or older who is a dependent as defined in Section 152 of the Internal Revenue Code of 1954.
- (6) Schools may disclose information received under a community notification program concerning a student who is required to register as a sex offender in the State.
- (7) Child welfare agencies that are legally responsible for the care and protection of students, including the educational stability of children in foster care.

B. Information from student records may be released to the following:

- (1) Appropriate persons in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of other persons. The factors to be considered in determining whether information may be disclosed include the seriousness of the threat to the health or safety of the student or other individuals, the need for the information to meet the emergency, whether the parties to whom the information is disclosed are in a position to deal with the emergency, and the extent to which time is of the essence in dealing with the emergency. 34 CFR 99.36, Conditions for disclosure of information in health and safety emergencies.
- (2) Agencies or organizations in connection with a student's application form or receipt of financial aid, provided that information permitting the personal identification of students or their parents may be disclosed only as may be necessary for such purposes as to determine the amount of the financial aid, to determine the conditions which will be imposed regarding the financial aid, or to enforce the terms or conditions of the financial aid.
- (3) Accrediting organizations in order to carry out their accrediting functions.
- (4) Organizations conducting studies for or on behalf of state educational agencies and state higher education authorities, educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, if such studies are conducted in such a manner as will not permit the personal identification of students or their parents by persons other than representatives of such organizations and such information will be destroyed when no longer needed for the purpose for which it is conducted.

Students

Student Records; Confidentiality

Access to Student Records (continued)

4. Without Parental Consent (continued)

Such disclosure is subject to the following FERPA requirements:

- The school does not have to initiate the research request or agree with or endorse the conclusion or results of the study.
- The school must agree with the purposes of the study and retain control over information from the education records it discloses.

The school must have a written agreement with the receiving organization that:

- Specifies the purpose, scope, and duration of the study or studies and the information to be disclosed.
 - Requires the organization to use the information from education records only to meet the purpose or purposes of the study stated in the agreement.
 - Requires the organization to conduct the study in a manner that does not permit personal identification of parents and students by anyone other than representatives of the organization with legitimate interests.
 - Requires the organization to destroy or return all personally identifiable information when no longer needed for purposes of the study.
 - Specifies the time period in which the information must be returned or destroyed.
- (5) Officials and employees of private schools or school districts where the student is enrolled or intends to enroll subject to the rights of parents by law.
- (6) An agency caseworker or other representative of a State or local child welfare agency, or tribal organization who has the right to access a student's case plan, as defined and determined by the State or tribal organization, when such agency or organization is legally responsible for the care and protection of the student, provided that the education records, or the personally identifiable information contained in such records will not be disclosed by such agency or organization, except to an individual or entity engaged in addressing the education needs of the students and authorized by such agency or organization to receive such disclosure.

Students

Student Records; Confidentiality

Access to Student Records (continued)

4. Without Parental Consent (continued)

- C. No person, persons, agency, or organization permitted access to student records pursuant to this regulation shall permit access to any information obtained from such records by any other person, persons, agency or organization without the written consent of the student's parent; provided, however, that this paragraph shall not be construed to require prior parental consent when information obtained pursuant to this regulation is shared with other persons within the district so long as such persons have an equal legitimate interest in the information.
- D. Education records may be released without consent if all personally identifiable information has been removed. The district must reach a "reasonable determination" that a student's identity is not personally identifiable because of unique patterns of information about that student, whether through single or multiple releases, taking into account other reasonably available information. Also, de-identified student level data may be released for the purpose of educational research by attaching a code to each record. It may be necessary to look to local news, events, and media coverage in the "school community" in determining, in a highly publicized incident, whether other information would make a particular record personally identifiable even if all direct identifiers have been removed.

5. Court Order

- A. Information concerning a student shall be furnished in compliance with a court order.
 - (1) Unless otherwise judicially instructed, the custodian shall, prior to the disclosure of any student's records pursuant to a court order, give the parent and the student three days notice, if lawfully possible, within the requirements of the judicial order, of the name of the requesting agency and the specific records requested. Such notice shall be in writing if possible.
 - (2) Only those records related to the specific purpose of the court order shall be disclosed.
 - (3) When a parent is a party to a court proceeding involving child abuse or neglect, or dependency matters, and a judicial order is issued in the context of that proceeding, or pursuant to a lawfully issued subpoena, additional notice to the parent by the educational agency or institution is not required pertaining to the disclosure of the records.

Students

Student Records; Confidentiality

Access to Student Records (continued)

5. Court Order (continued)

- B. The service of a subpoena upon a district employee or official solely for the purpose of causing the employee to produce a school record pertaining to any student may be complied with by such employee, in lieu of personal appearance as witness in the proceeding, by submitting to the court, or other agency issuing the subpoena, at the time and place required by the subpoena, a copy of such record, accompanied by an affidavit certifying that such copy is a true copy of the original record on file in the school or school office. The copy of the record shall be in the form of a photograph, microfilm, micro card, or miniature photograph or other photographic copy or reproduction or an enlargement thereof.

Nothing in this regulation shall preclude the district from providing in its discretion statistical data from which no student may be identified to any public agency or entity or private nonprofit college, university, or educational research and development organization when such actions would be in the best educational interests of students.

If it is determined, per the federal regulations, that a third party improperly redisclosed personally identifiable information from education records in violation of Section 99.33(a), of FERPA Regulations, the district may not allow that third party access to personally identifiable information from education records for at least five years.

6. Disclosure to Parents of “Eligible Students” and Rights of Students

- A. Rights of parents under FERPA transfer to students once the student has reached 18 years of age or is attending a post secondary institution and thereby becomes an “eligible student.”
- B. Disclosure to parents without student consent after FERPA rights have transferred to students is permitted under the following circumstances:
- (1) The student is a dependent for Federal income tax purposes.
 - (2) The disclosure is in connection with a health or safety emergency; i.e. knowledge of the information is necessary to protect the health or safety of other individuals.
 - (3) The student has violated a law or the school’s rules or policies governing alcohol or substance abuse.

Students

Student Records; Confidentiality

Access to Student Records (continued)

7. **Disclosure of Information in Health and Safety Emergencies** (*Also see section above*)
- A. The district may include in the education records of a student appropriate information concerning disciplinary action taken against the student for conduct that posed a significant risk to the safety or well-being of that student, other students, or other members of the school community.
 - B. Such appropriate information concerning disciplinary action may be disclosed to teachers and school officials in the district who have been determined to have legitimate educational interests in the behavior of the student. This must be strictly construed.
 - C. Such appropriate information, concerning disciplinary action, may be disclosed to teachers and school officials in other schools who have been determined to have legitimate educational interests in the behavior of the student.
 - D. In making a determination, the district or school must take into account the totality of the circumstances pertaining to a threat to the safety or health of the student or other individuals. If a school determines that there is an articulable and significant threat to the safety or health of a student or other individuals, it may disclose information from education records to appropriate parties whose knowledge of the information is necessary to protect the health and safety of the student or other individuals.
 - E. The district or school is required to record the articulable and significant threat that formed the basis for the disclosure and the parties to whom the information was disclosed. "Appropriate parties" include the parents of an eligible student.
 - F. Pursuant to C.G.S. 19a-581 through 19a-585, confidential information concerning HIV status may not be released to anyone EXCEPT a health care provider with a written release from the parents.
8. **Redisclosure of Educational Records**
- A. Federal and State officials that receive education records for audits, evaluation, and compliance and enforcement purposes may redisclose such records under the same conditions that apply to other recipients of education records.
 - B. A state educational agency that received records for audit, evaluation or compliance or enforcement purposes may redisclose records for other qualifying purposes, such as:
 - (1) Forwarding records to a student's new school district;
 - (2) Forwarding records to another listed official, including the Education Secretary or a post secondary authority;
 - (3) Forwarding to an accrediting agency; or
 - (4) In connection with a health or safety emergency.

Students

Student Records; Confidentiality

Access to Student Records (continued)

9. Criteria

- A. “School officials and employees” as used in this regulation means district employees and elected district officers, and other parties as defined in this regulation.
- B. The following criteria shall be used in determining whether a “school official or employee” has a “legitimate educational interest”.
 - (1) The employee has an instructional or supervisory responsibility toward the student that, in order to be fulfilled, requires knowledge of the contents of the student's records.
 - (2) The employee has an administrative duty that requires information contained in the student's records.
 - (3) The school official is engaged in a disciplinary proceeding that requires disclosure of all or part of the student's records in order to come to a just conclusion. (Or criteria can be defined by school district)
- C. The district and/or school shall use reasonable methods to identify and authenticate the identity of parents, students, school officials, and any other parties to whom they disclose education records. The district and its schools may use PINS, passwords, personal security questions, “smart cards” and tokens, biometric indicators, or other factors known or possessed only by the user, as appropriate. **Identification** means determining who is the intended or authorized recipient of the information. **Authentication** means ensuring that the recipient is who he/she claims to be.

Challenging Contents of Records

- 1. Following an inspection and review of a student’s records the parent or guardian of the student or former student may challenge the content of any student record.
 - A. The parent or eligible student may file a written request with the Superintendent of Schools to correct or remove any information recorded in the written records concerning the parent’s child which the parent alleges to be:
 - (1) Inaccurate, misleading or in violation of the student’s rights of privacy.
 - (2) An unsubstantiated personal conclusion or inference.

Students

Student Records; Confidentiality

Challenging Contents of Records (continued)

- (3) A conclusion or inference outside of the observer's area of competence.
 - (4) Not based on the personal observation of a named person with the time and place of the observation noted.
- B. Within 30 days of receipt of such request, the Superintendent or designee shall meet with the parent or guardian and the certified employee who recorded the information in question, if any, and if such employee is presently employed by the school district.
- C. The information shall be corrected or removed if the Superintendent sustains any or all of the allegations.
- D. If the Superintendent denies any or all of the allegations and refuses to order the correction or the removal of the information, the parent or guardian may, within 30 days of the refusal, appeal the decision in writing to the Board of Education.
 - (1) Within 30 days of receipt of such an appeal, the Board of Education shall, in closed session with the parent or guardian and the certified employee who recorded the information in question, if any, and if such employee is presently employed by the district, determine whether or not to sustain or deny the allegations. The decision of the Board of Education shall be final.
 - (2) If the Board of Education sustains any or all of the allegations, it shall order the Superintendent to immediately correct or remove and destroy the information from the student's written records.
 - (3) Records of these administrative proceedings shall be maintained in a confidential manner and shall be destroyed one year after the decision of the Board of Education unless the parent or guardian initiates legal proceedings relative to the disputed information within the prescribed period.
- E. If the final decision of the Board of Education is unfavorable to the parent or guardian, or if the parent or guardian accepts an unfavorable decision by the Superintendent, the parent or guardian shall have the right to submit a written statement of his/her objections to the information. This statement shall become a part of the student's school record until such time as the information objected to is corrected or removed.

Students

Student Records; Confidentiality

Challenging Contents of Records (continued)

2. Hearing Panel

- A. Either the Superintendent of Schools or the Board of Education may convene a hearing panel upon written request of a parent or eligible student. The hearing shall be provided to afford the opportunity to challenge the content of a student's education records on the grounds that the information contained in the education records is inaccurate, misleading, or otherwise in violation of the privacy rights of the students. The hearing panel shall be composed of the following persons, provided the parent has given written consent to release information from the relevant student's records to the members of the panel so convened, to assist in making determinations;
- (1) The principal of a public school other than the one at which the record is on file.
 - (2) A certified employee appointed by the parent or guardian.
 - (3) A parent appointed by the Superintendent or by the Board of Education, depending upon who convenes the panel.
- Alternate:** The hearing will be conducted by a person or persons appointed by the Superintendent of Schools. This person(s) shall be knowledgeable of the policies relating to confidentiality and shall not have a direct interest in the outcome of the hearing.
- B. The persons appointed pursuant to the above paragraph, if possible, shall not be acquainted with the student, his/her parent or guardian, or the certified employee who recorded the information, except when the parent or guardian appoints the person pursuant to paragraph a (2) above.
- C. The Principal appointed to the hearing panel shall serve as Chairperson.
- D. The hearing panel shall, in closed session, hear the objections to the information of the parent and the testimony of the certified employee who recorded the information in question, if any, and if such employee is currently employed by the school system. The parent or eligible student and the school system shall have the right to be represented by person(s) of their choosing at their own expense, to cross examine witnesses, to present evidence and to receive a written decision of the hearing.
- (1) The hearing panel shall be provided with verbatim copies of the information which is the subject of the controversy.
 - (2) Written findings shall be made setting forth the facts and decisions of the panel, and such findings within a reasonable period of time after the hearing shall be forwarded to the Superintendent or the Board of Education, depending upon who convened the panel.

Students

Student Records; Confidentiality Challenging Contents of Records (continued)

- E. If, after the hearing, the District does not make the requested change, the parent or eligible student shall be informed of his/her right to place a statement on the record commenting on the information or stating why he/she disagrees with the record. Whenever the District discloses the record to third parties, any such statement by the parent or eligible students must also be disclosed. (34 C.F.R. §99.21)
 - F. The proceedings of the hearing shall not be disclosed or discussed by panel members except in their official capacities.
3. Whenever there is included in any student record information concerning any disciplinary action taken by school system personnel in connection with the student, the student's parent or guardian may include in such student's record a written statement or response concerning the disciplinary action.

Directory Information

1. The following student information is declared to be directory information:
- A. Name
 - B. Address
 - C. Telephone number
 - D. Date and place of birth
 - E. Major field of study
 - F. Participation in officially recognized activities and sports
 - G. Weight and height of members of athletic teams
 - H. Dates of attendance
 - I. E-mail address
 - J. Parent's name/e-mail address
 - K. Degrees and awards received, including honor roll publication
 - L. Most recent previous public or private school attended by the student
- Note: FERPA regulations prohibits the use of a Social Security Number (SSN) as an identification element when disclosing or confirming directory information unless the student has provided written consent for the disclosure.*
2. Directory information may be released to the following:
- A. Federal, state and local governmental agencies
 - B. Representatives of the news media, including but not limited to newspapers, magazines and radio and television stations
 - C. Employers or prospective employers

Students

Student Records; Confidentiality

Directory Information (continued)

- D. Nonprofit youth organizations
 - E. Military recruiters or institutions of higher learning that have requested the names, addresses, and telephone numbers of secondary school students unless parental consent is denied.
3. Subject to the provisions of C.G.S. 1-19(b11), high schools shall provide the same directory information and on-campus recruiting opportunities to military recruiters as are offered to nonmilitary recruiters or commercial concerns. (cf. 5145.14 On-Campus Recruitment).
 4. No information may be released to a private profit-making entity other than employers, prospective employers and representatives of the news media.
 5. The names and addresses of students enrolled in grade 12 or who have terminated enrollment prior to graduation may be provided, in accordance with the terms of the law, to a private school or college cooperating under state law.
 6. The custodian of records will normally limit or deny the release of specific categories of directory information unless he determines that such release is required by law or is in the best interests of students.
 7. Notice shall be given annually of the categories of information which the school district plans to release and of the recipients.
 - A. The school shall allow a reasonable period of time after such notice has been given for a parent or guardian to inform the custodian of student records that any or all of the information designated should not be released without the parent's or guardian's prior consent.
 - B. No directory information shall be released regarding any student when a parent or guardian has notified the school that such information shall not be released.
 8. Disclosure of directory information on former students is permitted without providing notice or additional opt-out opportunities. A former student's opt-out provided while he/she was a student in the district must continue to be honored unless specifically rescinded by the former student.
 9. Opt-out from directory information does not prevent a school from identifying a student by name or from disclosing an electronic identifier or instructional e-mail address in the classroom. A student does not have the right to remain anonymous in class and an opt-out may not be used to impede routine classroom communications and interactions, whether the class is held in a specified physical location or online through electronic communications.

Students

Student Records; Confidentiality

Directory Information (continued)

Access Log

1. A log or record shall be maintained for each student's record which lists all persons, agencies, or organizations requesting or receiving information from the record and the legitimate educational interests.
2. Such listing need not include the following:
 - A. Parents or students to whom access is granted.
 - B. Parties to whom directory information is released.
 - C. Parties for whom written consent has been executed by the parent or guardian.
 - D. School officials or employees having a legitimate educational interest.
3. The log or record shall be open to inspection only by a parent or guardian and the custodian of student records, or the custodian's designee, and to other school officials with legitimate interests in the records, and to the Comptroller General of the United States, the Secretary of the Office of Education, an administrative head of an education agency as defined in 20 U.S.C. 1232g., and state educational authorities as a means of auditing the school system's operations.

Students

Student Records; Confidentiality (continued)

Fee for Reproducing Records

1. A fee based upon the actual cost of reproduction, handling and postage (if any) shall be charged for furnishing copies of any student record.
2. The custodian of student records annually shall recommend a fee schedule for approval by the Board of Education.
3. No fee shall
 - A. effectively prevent the parents or guardians from exercising their right to inspect and review student records.
 - B. be charged for searching or retrieving a student's record.
 - C. be made for furnishing
 - (1) up to two transcripts of former student's records.
 - (2) up to two verifications of various records of former students.

Transfer of Student Records

1. Whenever a student transfers to another Connecticut public school district or to a charter school, the following student records shall be forwarded upon written notification of the student's enrollment from the other district:
 - A. The student's Mandatory Permanent Student Record or a copy thereof. The original or a copy shall be retained by this district.
 - B. The student's entire Mandatory Interim Student Record.
2. The student's records shall be transferred to the new school district or charter school no later than 10 days after receipt of such notification.
3. Whenever a student transfers to a school district in another state or to a private school, the district shall transfer the student's Mandatory Permanent Student Record upon receipt of a written request.
4. Permitted student records may be forwarded.
5. Student records shall not be withheld from the requesting district because of any charges or fees owed by the student or the student's parents or guardian.
6. All student records shall be updated prior to transfer.

Students

Student Records; Confidentiality

Transfer of Student Records (continued)

7. Parent Notification
 - A. If a student's parent or guardian did not give authorization for the transfer of such records, the district shall send notification of the transfer to the parent/guardian at the same time it transfers the records.
 - B. If the transfer is a within-state transfer, the receiving school shall notify the parents of the record transfer.
 - C. If the student transfers out of state, the custodian of student records shall notify the parents or guardian at their last known address of the rights accorded them. (34 C.F.R. 99.34 disclosure to other agencies or institutions)
 - D. The notification shall include a statement of the parent's or guardian's right to review, challenge, and receive a copy of the student record, if desired.

Expungement of Records Pertaining to Suspension and/or Expulsion

1. Suspension

Notice of the suspension shall be recorded in the student's cumulative educational record. Such notice shall be expunged from the cumulative educational record if the student graduates from high school. In cases where the student's period of suspension is shortened or waived as permitted by Statute, the administration may choose to expunge the suspension notice from the cumulative record at the time the student completes the administration-specified program and meets any other conditions required by the administration.

If the student has not previously been suspended or expelled, and the administration chooses to expunge the suspension notice from the student's cumulative record prior to graduation, the administration may refer to the existence of the expunged disciplinary notice, notwithstanding the fact that such notice may have been expunged from the student's cumulative file, for the limited purpose of determining whether any subsequent suspensions or expulsions by the student would constitute the student's first such offense.

Students

Student Records; Confidentiality

Expungement of Records Pertaining to Suspension and/or Expulsion (continued)

2. Notice of Student Expulsion on Cumulative Record

Notice of expulsion and the conduct for which the student was expelled shall be included on the student's cumulative educational record. Such notice, except for notice of an expulsion based upon possession of a firearm or deadly weapon, shall be expunged from the cumulative educational record by the Board if the student graduates from high school.

In cases where the student's period of expulsion is shortened or waived as permitted by Statute, the Board may choose to expunge the expulsion notice from the cumulative record at the time the student completes the Board-specified program and meets any other conditions required by the Board.

If the student has not previously been suspended or expelled, and the administration chooses to expunge the expulsion notice from the student's cumulative record prior to graduation, the administration may refer to the existence of the expunged notice, notwithstanding the fact that such notice may have been expunged from the student's cumulative file, for the limited purpose of determining whether any subsequent suspension or expulsion by the student would constitute the student's first such offense.

Retention and Destruction of Student Records

1. No additions, except routine updating, shall be made to a student's record after high school graduation or permanent departure without the parent's or guardian's prior consent for those students who have not reached the age of eighteen years. Adult students may give consent for themselves.
2. The guide to disposal of municipal records in Connecticut is found in Connecticut General Statutes Section 7-109. For disposal of education records, see Schedule V of "Records Retention Schedules 1982" (Revised 1983) published by the Public Records Administration, Connecticut State Library, Hartford, Connecticut.
3. The method of destruction shall assure that records are not available to possible public inspection during the destruction process.

Subpoenaed Records

If the school is served with a subpoena issued by competent authority directing the production of school or student records in connection with any court proceeding, the school upon which such subpoena is served may deliver such record, or at its option a copy thereof, to the clerk of such court. Such clerk shall give a receipt for the same and shall be responsible for the safekeeping of such records, not permitting the removal of such records from the premises of the court. The clerk shall notify the school to call for the subpoenaed record when it is no longer needed for use in court. Any such record so delivered to the clerk of the court shall be sealed in an envelope which shall indicate the name of the school or student, the name of the attorney subpoenaing the same and the title of the case referred to in the subpoena.

Students

Student Records; Confidentiality

Subpoenaed Records (continued)

No such record or copy shall be open to inspection by any person except upon the order of a judge of the court concerned, and any such record or copy shall at all times be subject to the order of such judge.

Any and all parts of any such record or copy, if not otherwise inadmissible, shall be admitted in evidence without any preliminary testimony, if there is attached thereto the certification in affidavit form of the person in charge of such record indicating that such record or copy is the original record or copy thereof, made in the regular course of such business to make such record and that it was the regular course of such business to make such record at the time of the transactions, occurrences or events recorded therein or within a reasonable time thereafter.

A subpoena directing production of such school or student records shall be served not less than eighteen (18) hours before the time for production, provided such subpoena shall be valid if served less than eighteen (18) hours before the time of production if written notice of intent to serve such subpoena has been delivered to the person in charge of such records not less than eighteen hours (18) nor more than two weeks before such time for production.

Notification of Parents

1. Parents shall be notified in writing of their rights under this regulation upon the date of the student's initial enrollment, and annually thereafter of students current attendance at the same time as notice is issued. The notice shall be in a form which reasonably notifies parents of the availability of the following specific information:
 - A. The type of student records and information contained therein which are directly related to students and maintained by the school system.
 - B. The position of the person responsible for the maintenance of each type of record.
 - C. The location of the log or record required to be maintained.
 - D. The criteria to be used by the school district in defining "school officials and employees" and in determining "legitimate educational interest."
 - E. The policies of the school district for reviewing and expunging student records, including the right to inspect and review the student's education records within 45 days of the day the school district receives a request. If circumstances effectively present the parent or eligible student from exercising the right to inspect and review the student's education records, the district shall provide a copy of the records requested or make other arrangements for the inspection or review of the requested records.
 - F. The right of the parent or guardian to access (inspect and review) to student records.

Students

Student Records; Confidentiality

Notification of Parents

- G. The right to request the amendment of student education records that the parent or eligible student believes are inaccurate or misleading.
- H. The procedures for challenging the content of student records.
- I. The policy that no fee will be charged for up to two copies of a record.
- J. The categories of information which the school district has designated as directory information and that pursuant to federal law, military recruiters and institutions of higher learning may request and receive names, addresses and telephone numbers of all high school students, unless their parents/guardians notify the school, in writing, not to release this information.
- K. The right of the parent to file a complaint with the United States Department of Education concerning an alleged failure by the school system to comply with the provisions of Section 438 of the Federal Education Provisions Act (20 U.S.C.A. 1232g).
- L. The right of a parent or eligible student to a hearing regarding the request for amendment of the record if denied by the district.
- M. The right to consent to disclosures of personally identifiable information contained in the student education record, except to the extent that FERPA authorizes disclosure without consent.

Issue/Practice of Peer Grading

The definition of “education records” excludes grades on peer-graded papers before they are collected and recorded by a teacher. Peer-grading does not violate FERPA.

Legal Reference: Connecticut General Statutes
1-19(b)(11) Access to public records. Exempt records.
7-109 Destruction of documents.
10-15b Access of parent or guardian to student's records.
10-94i Rights and liabilities of surrogate parents.
10-154a Professional communications between teacher or nurse and student.
10-209 Records not to be public.
10-221b Boards of education to establish written uniform policy re treatment of recruiters.

Students

Student Records; Confidentiality

11-8a Retention, destruction and transfer of documents

11-8b Transfer or disposal of public records. State Library Board to adopt regulations.

46b-56(e) Access to records of minors.

Federal Family Educational Rights and Privacy Act of 1974 (section 438 of the General Education Act, as amended, added by section 513 of P.L. 93-568, codified at 20 U.S.C. 1232g and Final Rule 34 CFR Part 99, December 9, 2008)

Connecticut Public Records Administration Schedule V - Disposition of Education Records (Revised 1983).

USA Patriot Act of 2001, PL 107-56, 115 Stat. 272, Sec 507, 18 U.S.C. §2332b(g)(5)(B) and 2331

P.L. 112-278 “The Uninterrupted Scholars Act”

Owasso Independent Sch. Dist. No.1-011 v. Falvo, 534 U.S.426 (2002)

Regulation approved:

rev 4/09

rev 6/10

rev 4/12

rev 3/13

rev 4/17

**The Family Educational Rights and Privacy Act (FERPA)
Guidance for Reasonable Methods and Written Agreements**

What is the Family Educational Rights and Privacy Act?

The Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. §1232g, is a Federal privacy law administered by the Office of the Chief Privacy Officer (OCPO) in the U.S. Department of Education. FERPA and its implementing regulations in 34 CFR part 99 protect the privacy of students' education records and afford parents and eligible students (i.e., students who are 18 years of age or older or attend an institution of postsecondary education) certain rights to inspect and review education records, to seek to amend these records, and to consent to the disclosure of Personally Identifiable Information from education records (PII from education records).

The general rule under FERPA is that PII from education records cannot be disclosed without written consent. However, FERPA includes several exceptions that permit the disclosure of PII from education records without consent. Two of these exceptions are discussed in this document – the studies exception and the audit or evaluation exception. The two exceptions contain specific, and slightly different, requirements, described more fully in the implementing regulations (34 CFR Part 99).

What is the purpose of this document?

The audience for this document includes schools, school districts (also referred to as local educational agencies (LEAs)), postsecondary institutions, and State educational authorities (such as State educational agencies (SEAs)) that may disclose PII from education records. Our intent is to provide these entities with information about requirements and best practices for data disclosures under the studies exception and the audit or evaluation exception.

What is the Studies Exception? (see 20 U.S.C. §1232g(b)(1)(F) and §99.31(a)(6))

The studies exception allows for the disclosure of PII from education records without consent to organizations conducting studies for, or on behalf of, schools, school districts, or postsecondary institutions. Studies can be for the purpose of developing, validating, or administering predictive tests; administering student aid programs; or improving instruction.

Example: An SEA may disclose PII from education records without consent to an organization for the purpose of conducting a study that compares program outcomes across school districts to further assess what programs provide the best instruction and then duplicate those results in other districts.

What is the Audit or Evaluation Exception? (see 20 U.S.C. 1232g(b)(1)(C), (b)(3), and (b)(5) and §§99.31(a)(3) and 99.35)

The audit or evaluation exception allows for the disclosure of PII from education records without consent to authorized representatives of the Comptroller General of the U.S., the Attorney General, the Secretary of Education, and State or local educational authorities (FERPA-permitted entities). Under this exception, PII from education records must be used to audit or evaluate a Federal- or State-supported education program, or to enforce or comply with Federal legal requirements that relate to those education programs (audit, evaluation, or enforcement or compliance activity). The entity disclosing the PII from education records is specifically required to use reasonable methods to ensure to the greatest extent practicable that its designated authorized representative complies with FERPA and its regulations.

Example: An LEA could designate a university as an authorized representative in order to disclose, without consent, PII from education records on its former students to the university. The university then may disclose, without consent, transcript data on these former students to the LEA to permit the LEA to evaluate how effectively the LEA prepared its students for success in postsecondary education.

How do you define education program?

“*Education program*” is an important term under the audit or evaluation exception because PII from education records can only be disclosed to audit or evaluate a Federal- or State-supported “education program,” or to enforce or to comply with Federal legal requirements related to an education program. As specified in the FERPA regulations, §99.3, an education program must be principally engaged in the provision of education, including, but not limited to, early childhood education, elementary and secondary education, postsecondary education, special education, job training, career and technical education, and adult education, and any program that is administered by an educational agency or institution. For a definition of “early childhood program” please refer to §99.3 of the FERPA regulations.

Do we need to have a written agreement to disclose PII from education records without consent?

Yes. Both the studies exception and the audit or evaluation exception specifically require that the parties execute a written agreement when disclosing PII from education records without consent. The mandatory elements of that agreement vary slightly between the two exceptions.

Are there mandatory provisions for written agreements under the studies exception?

Yes. Written agreements under the studies exception must in accordance with the requirements in §99.31(a)(6)(iii)(C):

1. Specify the purpose, scope, and duration of the study and the information to be disclosed. Your agreement must specify the purpose of the study, describe its scope and its duration, and identify the information being disclosed.

2. Require the organization to use PII from education records only to meet the purpose or purposes of the study as stated in the written agreement. Your agreement must specify that the PII from education records must only be used for the study identified in the agreement.
3. Require the organization to conduct the study in a manner that does not permit the personal identification of parents and students by anyone other than representatives of the organization with legitimate interests. Your agreement must require the organization to conduct the study so as not to identify students or their parents. This typically means that the organization should allow internal access to PII from education records only to individuals with a need to know, and that the organization should take steps to maintain the confidentiality of the PII from education records at all stages of the study, including within the final report, by using appropriate disclosure avoidance techniques.
4. Require the organization to destroy all PII from education records when the information is no longer needed for the purposes for which the study was conducted, and specify the time period in which the information must be destroyed. Your agreement must require the organization to destroy the PII from education records when it is no longer needed for the identified study. You should determine the specific time period for destruction based on the facts and circumstances surrounding the disclosure and study. The parties to the written agreement may agree to amend the agreement to extend the time period if needed, but the agreement must include a time limit.

Are there mandatory provisions for written agreements under the audit or evaluation exception?

Yes. The mandatory provisions for written agreements under the audit or evaluation exception are similar to, but slightly different from, the provisions required for written agreements under the studies exception. Section 99.35(a)(3) specifically requires that the following provisions be included in written agreements under the audit or evaluation exception:

1. Designate the individual or entity as an authorized representative. Your agreement must formally designate the individual or entity as an authorized representative.
2. Specify the PII from education records to be disclosed. Your agreement must identify the information being disclosed.
3. Specify that the purpose for which the PII from education records is being disclosed to the authorized representative is to carry out an audit or evaluation of Federal- or State-supported education programs, or to enforce or to comply with Federal legal requirements that relate to those programs. Your agreement must state specifically that the disclosure of the PII from education records is in furtherance of an audit, evaluation, or enforcement or compliance activity.
4. Describe the activity with sufficient specificity to make clear that it falls within the audit or evaluation exception. This must include a description of how the PII from education records will be used. Don't be vague – the agreement must describe the methodology and why disclosure of PII from education records is necessary to accomplish the audit, evaluation, or enforcement or compliance activity.

5. Require the authorized representative to destroy the PII from education records when the information is no longer needed for the purpose specified. Your agreement should be clear about how the PII from education records will be destroyed.
6. Specify the time period in which the PII must be destroyed. Your agreement must provide a time period for destruction. You should determine the specific time period for destruction based on the facts and circumstances surrounding the disclosure and activity. The parties to the written agreement may agree to amend the agreement to extend the time period if needed, but the agreement must include a time limit.
7. Establish policies and procedures, consistent with FERPA and other Federal and State confidentiality and privacy provisions, to protect PII from education records from further disclosure (except back to the disclosing entity) and unauthorized use, including limiting use of PII from education records to only authorized representatives with legitimate interests in an audit, evaluation, or enforcement or compliance activity. The agreement must establish the policies and procedures, consistent with FERPA and other Federal and State laws, to protect PII from education records from further disclosure or unauthorized use.

Can an entity receiving PII from education records disclose it in a way that allows individual students to be identified?

No. Absent consent from the parent or eligible student, FERPA provides that the PII from education records cannot be published in a way that would allow individual students and their parents to be identified. The organization conducting the study, audit, or evaluation can use PII from education records to conduct the study, audit, or evaluation, but results must be published in a way that protects the privacy and confidentiality of the individuals involved. For example, when publishing tables, cell suppression and other methods of disclosure avoidance can be used so that students cannot be identified through small numbers displayed in table cells.

Under the audit or evaluation exception, what is your responsibility to use “reasonable methods” to ensure that your authorized representative is FERPA-compliant to the greatest extent practicable? (§99.35(a)(2))

When you disclose PII from education records under the audit or evaluation exception, you are required to use “reasonable methods” to ensure to the greatest extent practicable that your authorized representative is FERPA-compliant. This specifically means ensuring that your authorized representative does the following:

1. Uses PII from education records only to carry out an audit or evaluation of Federal- or State-supported education programs, or for the enforcement of or compliance with, Federal legal requirements related to these programs. You should make sure that the proposed audit or evaluation is legitimate, and require in your written agreement that your authorized representative use the PII from education records only for that audit, evaluation, or enforcement or compliance activity. You should not disclose all of your PII

from education records; rather, you should determine which specific elements your authorized representative needs and disclose only those.

2. Protects the PII from education records from further disclosures or other uses, except as authorized by you in accordance with FERPA. Your agreement must specify that your authorized representative may not further disclose the PII from education records, unless authorized. Approval to use the PII from education records for one audit or evaluation does not confer approval to use it for another.
3. Destroys the PII from education records when no longer needed for the audit, evaluation, or enforcement or compliance activity. Your agreement must specify that your authorized representative is required to destroy the PII from education records when it is no longer needed and specify the time period in which the PII must be destroyed.

Are there best practices that support reasonable methods?

Yes. While it is vital for organizations to comply with FERPA and its regulations, FERPA represents the floor for protecting privacy, not the ceiling. Accordingly, the Department is also specifying best practices, in which we describe actions we recommend you take to ensure that your authorized representative is protecting privacy to the greatest extent possible. Best practices are broader than FERPA compliance and describe recommended actions you should take to ensure that your authorized representative is FERPA-compliant to the greatest extent practicable.

These best practices may apply to data sharing under both the audit and evaluation exception and the studies exception. Please keep in mind that not all of the following best practices are appropriate in every instance, and this list does not include every possible protection. Before disclosing PII from education records under one of these exceptions, you should examine the following list and tailor your practices as necessary and appropriate.

- *Convey the limitations on the data.* You should take steps to ensure your authorized representative knows the limitations on the use of the data (i.e., that the data is only to carry out the audit or evaluation of Federal- or State-supported education programs, or to enforce or to comply with Federal legal requirements that relate to those programs).
- *Obtain assurances against redisclosure.* You should obtain assurances from your authorized representative that the data will not be redisclosed without permission, including such assurances that your authorized representative will provide you (the disclosing entity) the right to review any data prior to publication and to verify proper disclosure avoidance techniques have been used.
- *Be clear about destruction.* You should set clear expectations so your authorized representative knows what process needs to be followed for the proper destruction of PII from education records.
- *Maintain a right to audit.* You should maintain the right to conduct audits or other monitoring activities of your authorized representative's policies, procedures, and systems.
- *Verify the existence of disciplinary policies to protect data.* You may want to verify that your authorized representative has appropriate disciplinary policies for employees that violate FERPA. This can include termination in appropriate instances.

- *Verify the existence of a sound data security plan.* You may wish to verify before disclosing PII from education records that your authorized representative has a sound data security program, one that protects both data at rest and data in transmission. You have a responsibility to determine if your authorized representative's data security plan is adequate to prevent FERPA violations. The steps that you may need to take in order to verify a sound data security program are likely to vary with each situation. In some cases, it may suffice to add language to the written agreement that states what data security provisions are required. In other cases, it may be more prudent for you to take a hands-on approach and complete a physical inspection. Additionally, your written agreements could specify required data security elements, including requirements related to encryption, where the data can be hosted, transmission methodologies, and provisions to prevent unauthorized access.
- *Verify the existence of a data stewardship program.* You may want to examine your authorized representative's data stewardship program. Data stewardship should involve internal control procedures that protect PII from education records and include all aspects of data collection – from planning to maintenance to use and dissemination. The Department believes that a good data stewardship plan would have support and participation from across the organization, including the head of the organization, management, legal counsel, and data administrators, providers, and users. The plan should detail the organization's policies and procedures to protect privacy and data security, including the ongoing management of data collection, processing, storage, maintenance, use, and destruction. The plan could also include designating an individual to oversee the privacy and security of the PII from the education records it maintains. For more information, we have posted for comment a technical brief: "Data Stewardship: Managing Personally Identifiable Information in Electronic Student Education Records" that can be found at <http://www2.ed.gov/policy/gen/guid/ptac/technical-briefs.html>
- *Disclose only PII from education records that is needed.* When you consider disclosing PII from education records to an authorized representative for an audit, evaluation, or enforcement or compliance activity, you may want to explore which specific data elements are necessary for that activity and provide only those elements. You should take care to ensure that you are not disclosing more PII from education records than needed for the stated activity and purpose. You should also explore whether PII from education records is actually required, or whether de-identified data would suffice.
- *Know to whom you are disclosing data.* You may want to require your authorized representative to conduct background investigations of employees who will have access to PII from education records, or you may want to conduct these investigations yourself. Additionally, you may want to require your authorized representative to disclose past FERPA or data management violations. If you discover past violations, you would want to explore the circumstances behind the violation, and discover all information that would allow you to make an informed judgment on whether the individual or entity is likely to be a responsible data steward. This may include discovering whether the violation was covered up, including if it was voluntarily reported to affected students or FPCO, and whether appropriate breach response procedures were followed.

- *Verify training.* You may want to verify that your authorized representative has a training program to teach its employees about FERPA and how to protect PII from education records, or you may want to train your authorized representatives yourself.

Are there best practices for written agreements?

You should consider the following items for inclusion in your written agreements for work under both the audit or evaluation exception and the studies exception. We note that this list may not cover everything you want in your agreement – you should look to the facts and circumstances surrounding the disclosure agreement and include all terms necessary to be clear about roles, responsibilities, and expectations for safeguarding PII from education records.

- *Bind individuals to the agreement.* It can be important to bind not just the entity to whom you are disclosing PII from education records, but also the individuals who will be accessing that data. There are several ways to accomplish this result. One way is to identify the individuals in the agreement itself, and have them execute the agreement in their individual capacity as well as having a representative execute the agreement for the entity. Alternatively, your agreement can require individuals accessing the PII from education records to execute affidavits of nondisclosure or other documentation indicating their individual agreement to handle the PII from education records properly.
- *Agree on limitations on use of the PII from education records.* Your agreement should be clear about limitations on the use of the PII from education records, meaning that it can only be used for the activities described in the agreement. Your agreement may also address methodological limitations, for example, identifying which data sets, if any, the PII from education records may be linked.
- *Agree to not redisclose.* The most basic provision of the agreement is to make clear that the PII from education records is confidential and must not be redisclosed through direct data disclosures or publishing results that allow individuals to be directly or indirectly identified. FERPA-permitted entities may wish to require that specified disclosure avoidance methodologies be applied, or may wish to review all results prior to publication, or both.
- *Specify points of contact/data custodians.* Your written agreements should specify points of contact and data custodians (the individuals directly responsible for managing the data in question).
- *Mention Institutional Review Board (IRB) review and approval.* While FERPA does not mention IRBs, research proposals involving human subjects may have to be reviewed and approved by IRBs, if required under protection of human subject regulations of the Department and other Federal agencies. If IRB review and approval is required or expected, this may be noted in the written agreement.
- *State ownership of PII from education records.* You may wish for your agreement to be clear that, in disclosing PII from education records to an entity, you are in no way assigning ownership of the PII or records to that entity, and that it may only be

redisclosed with your permission or otherwise in compliance with FERPA and its regulations.

- *Identify penalties.* Your agreement could include penalties under State contract law such as liquidated damages, data bans of varying length, and any other penalties the parties to the agreement deem appropriate. You may want your agreement to create third-party beneficiary rights, e.g., allowing parties injured by a data breach to sue for damages. While FERPA itself has little flexibility for sanctions, you can include a wide range of appropriate sanctions in your written agreements.
- *Set terms for data destruction.* As discussed previously, written agreements for both studies and audits and evaluations are required to contain provisions dealing with the destruction of PII from education records when those records are no longer needed. The agreement could include a method for documenting the destruction, such as the use of notarized statements.
- *Include funding terms.* If the agreement involves cost reimbursement, these details could be specified.
- *Maintain right to audit.* You may want to include the right to conduct audits or otherwise monitor the entity to which you are disclosing PII from education records to periodically affirm that the entity has appropriate policies and procedures in place to protect the PII from education records.
- *Identify and comply with all legal requirements.* It is important to remember that FERPA may not be the only law that governs your agreement. The agreement could broadly require compliance with all applicable Federal, State, and local laws and regulations, and identify the legal authority (whether express or implied) that permits the audit, evaluation, or enforcement or compliance activity.
- *Have plans to handle a data breach.* While no one anticipates a data breach, data loss may occur. You may wish to include specific procedures in your written agreements detailing the parties' expectations in the event that PII from education records is lost, including specifying the parties' responsibilities with regard to breach response and notification and financial responsibility.
- *Review and approve reported results.* If applicable, the written agreement could specify the parties' agreements with respect to publication of results. For example you may wish to review and approve reports prior to publication to make sure that they reflect the original intent of the agreement.
- *Define terms for conflict resolution.* The agreement could specify procedures for how disputes between the parties would be resolved.
- *Specify modification and termination procedures.* The agreement could specify how it can be modified or terminated. You may wish to provide specific provisions for termination based on improper handling of PII from education records.

What do I do if the terms of the written agreement are violated?

If the entity to which you have disclosed PII from education records without consent (whether under the studies exception or the audit an evaluation exception) violates the terms of the written agreement, you should evaluate your options under the penalty and termination provisions of the agreement. You may want to stop disclosing PII from education records to that organization, or

pursue legal redress. If you have reason to believe that the entity has violated FERPA, you should contact FPCO.

How should the public be informed?

It is a best practice to keep the public informed when you disclose PII from education records.

- *Inform the public about written agreements.* Transparency is a best practice. You might want to post your data sharing agreements on your Web site, or provide some equivalent method to let interested parties know what data you are disclosing, the reasons it is being disclosed, and how it is being protected. While the Department generally recommends public posting of written agreements, parties are encouraged to review their contractual data security provisions carefully and redact, prior to publication, any provisions that may aid those seeking unauthorized access to systems. In certain instances a separate confidential IT Security Plan may be appropriate. For more information on data security best practices, see the Privacy Technical Assistance Center (PTAC) Web site: <http://www2.ed.gov/policy/gen/guid/ptac/index.html>

Who should I call if I have questions?

If you would like more information about best practices to protect PII from education records, contact the PTAC Help Desk at PrivacyTA@ed.gov or 855-249-3072.

If you are a parent, eligible student, school, LEA, or SEA and would like more information on FERPA, please call OCPO at 1-800-872-5327.

NOTIFICATION OF RIGHTS UNDER FERPA

**BRISTOL PUBLIC SCHOOLS
Bristol, Connecticut**

Dear Parent or Student:

The Family Educational Rights and Privacy Act (FERPA) affords parents and students over 18 years of age (“eligible students”) certain rights with respect to the student’s education records. They are:

1. The right to inspect and review the student’s education records within 45 days of the day the District receives a request for access.

Parents or eligible students should submit to the school principal (or appropriate school official) a written request that identifies the record(s) they wish to inspect. The principal/school official will make arrangements for access and notify the parent or eligible student of the time and place where the records may be inspected.

2. The right to request the amendment of the student's education records that the parent or eligible student believes are inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA.

Parents or eligible students may ask the District to amend a record that they believe is inaccurate. They should write the school principal or appropriate school official, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading, or otherwise violates the student’s privacy rights.

If the District decides not to amend the record as requested by the parent or eligible student, the District will notify the parent or eligible student of the decision and advise them of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the parent or eligible student when notified of the right to a hearing.

3. The right to provide written consent before District disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent.

NOTIFICATION OF RIGHTS UNDER FERPA

One exception which permits disclosure without consent is disclosure to school officials, including teachers within the District, with legitimate educational interests. A school official is a person employed by the district as an administrator, supervisor, instructor, or support staff member (including health or medical staff and law enforcement unit personnel); or a person serving on the Board of Education. A school official may also include a volunteer or contractor outside of the District who performs an institutional service or function for which the District would otherwise use its own employees and who is under the direct control of the District with respect to the use and maintenance of personally identifiable information from education records. This includes a person or company with whom the District has contracted to perform a special task (such as an attorney, auditor, medical consultant or therapist); a parent of student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his/her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his/her professional responsibility.

Contractors, consultants, volunteers, and other parties to whom a school has out sourced services or functions are considered “school officials” who may have access to student records, without consent, subject to following conditions:

- The party is under the direct control of the school.
- The party is subject to the same conditions governing the use and redisclosure of education records applicable to other school officials.
- The contractor must ensure that only individuals with legitimate educational interests, as determined by the district or school, obtain access to the education records. The contractor may not redisclose personally identifiable information without consent unless the District or school has authorized the redisclosure under a FERPA exception and the district or school records the subsequent disclosure.

Upon request, the District will disclose a student’s education record without consent to officials of another school district or charter school or institution of postsecondary education in which the student seeks or intends to enroll or where the student is already enrolled, if the disclosure is for purposes related to the student’s enrollment or transfer. (Note: FERPA requires a school district to make a reasonable attempt to notify the student of the records request unless it states in its annual notification that it intends to forward records on request.)

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the District to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Office of the Chief Privacy Officer (OCPO)
U.S. Department of Education

5. The District has determined that the following information regarding the District's students is not harmful or an invasion of privacy, and therefore will release this information without first obtaining parental consent. If a parent, guardian, person acting as a student's parent in the absence of a parent or guardian, or the student (if 18 or older), does not want the District to release the information listed below, they must notify the District in writing within two weeks of receiving this notice of the information they do not want released.

The following information may be released without obtaining parental consent:

Student's name, parent's name, address, telephone number, electronic mail address, date and place of birth, grade level, major field of study, enrollment status (full-time or part-time), participation in officially recognized activities and sports including audiovisual or photographic records of the openly visible, activities thereof (e.g. artistic performances sporting contests, assemblies, service projects, awards ceremonies, etc.), weight and height of members of athletic teams, dates of attendance, degrees, honors and awards received, most recent previous school attended and photographs of regular school activities that do not disclose specific academic information about the child and/or would not be considered harmful or an invasion of privacy.

A student's ID number or otherwise unique personal identifier displayed on a student ID badge is considered directory information, but only if the identifier cannot be used to gain access to education records except when used in conjunction with one or more factors that authenticates the user's identity, such as a PIN, password, or other factors known only to the authorized user.

6. Pursuant to federal law, military recruiters and institutions of higher learning may request and receive the names, addresses and telephone numbers of all high school students, unless their parents or guardians notify the school not to release this information. Please notify the District in writing if you do not want this information released.
7. Personally identifiable information in the student's records may be released to authorized representatives of the Attorney General of the United States, the U.S. Secretary of Education, or State and local educational authorities such as the Connecticut Department of Education in connection with an audit or evaluation of Federal or State supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs, and to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation, or enforcement or compliance activity on their behalf.

8. Schools may release information received under a community notification program concerning a student who is required to register as a sex offender in the State, with consent.
9. Except for disclosures to school officials, disclosures related to some judicial orders or lawfully issued subpoenas, disclosures of directory information, and disclosures to the parent/guardian or eligible student, FERPA regulations require the District to record the disclosure. Parents and eligible students have a right to inspect and review the record of disclosures.
10. Information may be disclosed from the education records of a student without obtaining prior written consent of the parents or the eligible student in the following situations:
 - a. In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid.
 - b. To State and local officials or authorities to whom information is specifically allowed to be reported or disclosed by a State statute that concerns the juvenile justice system and the system's ability to effectively serve, prior to adjudication, the student whose records were released.
 - c. To organizations conducting studies for, or on behalf of, the school, in order to:
 - (a) develop, validate, or administer predictive tests;
 - (b) administer student aid programs;
 - (c) improve instruction.
 - d. To accrediting organizations to carry out their accrediting functions.
 - e. To parents of an eligible student if the student is a dependent for IRS tax purposes.
 - f. To comply with a judicial order or lawfully issued subpoena.
 - g. To appropriate officials in connection with a health or safety emergency.
 - h. Information the school has designated as "directory information."
 - i. To child welfare agencies, or tribal organizations that are legally responsible for the care and protection of students, including the educational stability of children in foster care.

rev 3/13
rev 1/17

**NOTIFICATION OF RELEASE OF STUDENT RECORDS
PURSUANT TO COURT ORDER OR SUBPOENA**

Bristol Public Schools
Bristol, Connecticut

TO: _____
Parent - Student

Address

The purpose of this notice is to notify you that on _____ (date), the _____
(school district) released the following documents:

from your child's (your own) student records to:

pursuant to a court order or subpoena, a copy of which is attached hereto.

DATED: _____

Note: When a parent is a party to a court proceeding involving child abuse or neglect, or dependency matters, and a judicial order is issued in the context of that proceeding, or pursuant to a lawfully issued subpoena, additional notice to the parent by the educational agency or institution is not required pertaining to the disclosure of the records.

**APPLICATION TO REVIEW STUDENT'S RECORDS
AND CONSENT THERETO BY PARENT OR STUDENT**

Bristol Public Schools
Bristol, Connecticut

I, _____

have hereby requested access to _____

records for the following reasons:

Said records will not be made available to any other person or persons without the specific written consent of (Parent-Student) _____

DATED: _____

CONSENT

I hereby consent that _____

have access to my child's (to my) records with the understanding that such records will not be released by him/her to other persons without my further consent.

DATED: _____

**APPLICATION TO REVIEW STUDENT'S RECORDS
BY PARTIES ENTITLED THERETO
WITHOUT CONSENT BY PARENT OR STUDENT**

Bristol Public Schools
Bristol, Connecticut

I, _____

have hereby requested access to _____

records for the following reasons:

Said records will not be made available to any other person or persons without the specific written

consent of (Parent-Student) _____

DATED: _____

BRISTOL PUBLIC SCHOOLS
Bristol, Connecticut

RELEASE OF CONFIDENTIAL HIV-RELATED INFORMATION

I hereby authorize _____ to release
[name of individual who holds the information]
confidential HIV-related information, as defined in Connecticut General Statute §19a-581,
concerning _____ to the following personnel:
[name of protected individual]

1. School Nurse
2. School Administrator(s)
 - a. _____
 - b. _____
3. Student's Teacher(s)
 - a. _____
 - b. _____
4. Paraprofessional(s)
5. Director of Pupil Personnel Services
6. Other(s)
 - a. _____
 - b. _____

This authorization shall be valid for:

1. The student's stay at _____ School
2. The current school year
3. Other _____ (specify period)

I provide this information based on my responsibility to consent for the health care of
_____. I understand that such information shall be
held confidential by the persons authorized here to receive such information, except as otherwise
provided by law.

Name

Relationship to Student

Date

**The Family Educational Rights and Privacy Act (FERPA)
Guidance for Reasonable Methods and Written Agreements**

What is the Family Educational Rights and Privacy Act?

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The general rule under FERPA is that PII from education records cannot be disclosed without written consent. However, FERPA includes several exceptions that permit the disclosure of PII from education records without consent. Two of these exceptions are discussed in this document – the studies exception and the audit or evaluation exception. The two exceptions contain specific, and slightly different, requirements, described more fully in the implementing regulations (34 CFR Part 99).

What is the purpose of this document?

The audience for this document includes schools, school districts (also referred to as local educational agencies (LEAs)), postsecondary institutions, and State educational authorities (such as State educational agencies (SEAs)) that may disclose PII from education records. Our intent is to provide these entities with information about requirements and best practices for data disclosures under the studies exception and the audit or evaluation exception.

What is the Studies Exception? (see 20 U.S.C. §1232g(b)(1)(F) and §99.31(a)(6))

The studies exception allows for the disclosure of PII from education records without consent to organizations conducting studies for, or on behalf of, schools, school districts, or postsecondary institutions. Studies can be for the purpose of developing, validating, or administering predictive tests; administering student aid programs; or improving instruction.

Example: An SEA may disclose PII from education records without consent to an organization for the purpose of conducting a study that compares program outcomes across school districts to further assess what programs provide the best instruction and then duplicate those results in other districts.

What is the Audit or Evaluation Exception? (see 20 U.S.C. 1232g(b)(1)(C), (b)(3), and (b)(5) and §§99.31(a)(3) and 99.35)

The audit or evaluation exception allows for the disclosure of PII from education records without consent to authorized representatives of the Comptroller General of the U.S., the Attorney General, the Secretary of Education, and State or local educational authorities (FERPA-permitted entities). Under this exception, PII from education records must be used to audit or evaluate a Federal- or State-supported education program, or to enforce or comply with Federal legal requirements that relate to those education programs (audit, evaluation, or enforcement or compliance activity). The entity disclosing the PII from education records is specifically required to use reasonable methods to ensure to the greatest extent practicable that its designated authorized representative complies with FERPA and its regulations.

Example: An LEA could designate a university as an authorized representative in order to disclose, without consent, PII from education records on its former students to the university. The university then may disclose, without consent, transcript data on these former students to the LEA to permit the LEA to evaluate how effectively the LEA prepared its students for success in postsecondary education.

How do you define education program?

“*Education program*” is an important term under the audit or evaluation exception because PII from education records can only be disclosed to audit or evaluate a Federal- or State-supported “education program,” or to enforce or to comply with Federal legal requirements related to an education program. As specified in the FERPA regulations, §99.3, an education program must be principally engaged in the provision of education, including, but not limited to, early childhood education, elementary and secondary education, postsecondary education, special education, job training, career and technical education, and adult education, and any program that is administered by an educational agency or institution. For a definition of “early childhood program” please refer to §99.3 of the FERPA regulations.

Do we need to have a written agreement to disclose PII from education records without consent?

Yes. Both the studies exception and the audit or evaluation exception specifically require that the parties execute a written agreement when disclosing PII from education records without consent. The mandatory elements of that agreement vary slightly between the two exceptions.

Are there mandatory provisions for written agreements under the studies exception?

Yes. Written agreements under the studies exception must in accordance with the requirements in §99.31(a)(6)(iii)(C):

5. Specify the purpose, scope, and duration of the study and the information to be disclosed. Your agreement must specify the purpose of the study, describe its scope and its duration, and identify the information being disclosed.

6. Require the organization to use PII from education records only to meet the purpose or purposes of the study as stated in the written agreement. Your agreement must specify that the PII from education records must only be used for the study identified in the agreement.
7. Require the organization to conduct the study in a manner that does not permit the personal identification of parents and students by anyone other than representatives of the organization with legitimate interests. Your agreement must require the organization to conduct the study so as not to identify students or their parents. This typically means that the organization should allow internal access to PII from education records only to individuals with a need to know, and that the organization should take steps to maintain the confidentiality of the PII from education records at all stages of the study, including within the final report, by using appropriate disclosure avoidance techniques.
8. Require the organization to destroy all PII from education records when the information is no longer needed for the purposes for which the study was conducted, and specify the time period in which the information must be destroyed. Your agreement must require the organization to destroy the PII from education records when it is no longer needed for the identified study. You should determine the specific time period for destruction based on the facts and circumstances surrounding the disclosure and study. The parties to the written agreement may agree to amend the agreement to extend the time period if needed, but the agreement must include a time limit.

Are there mandatory provisions for written agreements under the audit or evaluation exception?

Yes. The mandatory provisions for written agreements under the audit or evaluation exception are similar to, but slightly different from, the provisions required for written agreements under the studies exception. Section 99.35(a)(3) specifically requires that the following provisions be included in written agreements under the audit or evaluation exception:

8. Designate the individual or entity as an authorized representative. Your agreement must formally designate the individual or entity as an authorized representative.
9. Specify the PII from education records to be disclosed. Your agreement must identify the information being disclosed.
10. Specify that the purpose for which the PII from education records is being disclosed to the authorized representative is to carry out an audit or evaluation of Federal- or State-supported education programs, or to enforce or to comply with Federal legal requirements that relate to those programs. Your agreement must state specifically that the disclosure of the PII from education records is in furtherance of an audit, evaluation, or enforcement or compliance activity.
11. Describe the activity with sufficient specificity to make clear that it falls within the audit or evaluation exception. This must include a description of how the PII from education records will be used. Don't be vague – the agreement must describe the methodology and why disclosure of PII from education records is necessary to accomplish the audit, evaluation, or enforcement or compliance activity.

12. Require the authorized representative to destroy the PII from education records when the information is no longer needed for the purpose specified. Your agreement should be clear about how the PII from education records will be destroyed.
13. Specify the time period in which the PII must be destroyed. Your agreement must provide a time period for destruction. You should determine the specific time period for destruction based on the facts and circumstances surrounding the disclosure and activity. The parties to the written agreement may agree to amend the agreement to extend the time period if needed, but the agreement must include a time limit.
14. Establish policies and procedures, consistent with FERPA and other Federal and State confidentiality and privacy provisions, to protect PII from education records from further disclosure (except back to the disclosing entity) and unauthorized use, including limiting use of PII from education records to only authorized representatives with legitimate interests in an audit, evaluation, or enforcement or compliance activity. The agreement must establish the policies and procedures, consistent with FERPA and other Federal and State laws, to protect PII from education records from further disclosure or unauthorized use.

Can an entity receiving PII from education records disclose it in a way that allows individual students to be identified?

No. Absent consent from the parent or eligible student, FERPA provides that the PII from education records cannot be published in a way that would allow individual students and their parents to be identified. The organization conducting the study, audit, or evaluation can use PII from education records to conduct the study, audit, or evaluation, but results must be published in a way that protects the privacy and confidentiality of the individuals involved. For example, when publishing tables, cell suppression and other methods of disclosure avoidance can be used so that students cannot be identified through small numbers displayed in table cells.

Under the audit or evaluation exception, what is your responsibility to use “reasonable methods” to ensure that your authorized representative is FERPA-compliant to the greatest extent practicable? (§99.35(a)(2))

When you disclose PII from education records under the audit or evaluation exception, you are required to use “reasonable methods” to ensure to the greatest extent practicable that your authorized representative is FERPA-compliant. This specifically means ensuring that your authorized representative does the following:

4. Uses PII from education records only to carry out an audit or evaluation of Federal- or State-supported education programs, or for the enforcement of or compliance with, Federal legal requirements related to these programs. You should make sure that the proposed audit or evaluation is legitimate, and require in your written agreement that your authorized representative use the PII from education records only for that audit, evaluation, or enforcement or compliance activity. You should not disclose all of your PII

from education records; rather, you should determine which specific elements your authorized representative needs and disclose only those.

5. Protects the PII from education records from further disclosures or other uses, except as authorized by you in accordance with FERPA. Your agreement must specify that your authorized representative may not further disclose the PII from education records, unless authorized. Approval to use the PII from education records for one audit or evaluation does not confer approval to use it for another.
6. Destroys the PII from education records when no longer needed for the audit, evaluation, or enforcement or compliance activity. Your agreement must specify that your authorized representative is required to destroy the PII from education records when it is no longer needed and specify the time period in which the PII must be destroyed.

Are there best practices that support reasonable methods?

Yes. While it is vital for organizations to comply with FERPA and its regulations, FERPA represents the floor for protecting privacy, not the ceiling. Accordingly, the Department is also specifying best practices, in which we describe actions we recommend you take to ensure that your authorized representative is protecting privacy to the greatest extent possible. Best practices are broader than FERPA compliance and describe recommended actions you should take to ensure that your authorized representative is FERPA-compliant to the greatest extent practicable.

These best practices may apply to data sharing under both the audit and evaluation exception and the studies exception. Please keep in mind that not all of the following best practices are appropriate in every instance, and this list does not include every possible protection. Before disclosing PII from education records under one of these exceptions, you should examine the following list and tailor your practices as necessary and appropriate.

- *Convey the limitations on the data.* You should take steps to ensure your authorized representative knows the limitations on the use of the data (i.e., that the data is only to carry out the audit or evaluation of Federal- or State-supported education programs, or to enforce or to comply with Federal legal requirements that relate to those programs).
- *Obtain assurances against redisclosure.* You should obtain assurances from your authorized representative that the data will not be redisclosed without permission, including such assurances that your authorized representative will provide you (the disclosing entity) the right to review any data prior to publication and to verify proper disclosure avoidance techniques have been used.
- *Be clear about destruction.* You should set clear expectations so your authorized representative knows what process needs to be followed for the proper destruction of PII from education records.
- *Maintain a right to audit.* You should maintain the right to conduct audits or other monitoring activities of your authorized representative's policies, procedures, and systems.
- *Verify the existence of disciplinary policies to protect data.* You may want to verify that your authorized representative has appropriate disciplinary policies for employees that violate FERPA. This can include termination in appropriate instances.

- *Verify the existence of a sound data security plan.* You may wish to verify before disclosing PII from education records that your authorized representative has a sound data security program, one that protects both data at rest and data in transmission. You have a responsibility to determine if your authorized representative's data security plan is adequate to prevent FERPA violations. The steps that you may need to take in order to verify a sound data security program are likely to vary with each situation. In some cases, it may suffice to add language to the written agreement that states what data security provisions are required. In other cases, it may be more prudent for you to take a hands-on approach and complete a physical inspection. Additionally, your written agreements could specify required data security elements, including requirements related to encryption, where the data can be hosted, transmission methodologies, and provisions to prevent unauthorized access.
- *Verify the existence of a data stewardship program.* You may want to examine your authorized representative's data stewardship program. Data stewardship should involve internal control procedures that protect PII from education records and include all aspects of data collection – from planning to maintenance to use and dissemination. The Department believes that a good data stewardship plan would have support and participation from across the organization, including the head of the organization, management, legal counsel, and data administrators, providers, and users. The plan should detail the organization's policies and procedures to protect privacy and data security, including the ongoing management of data collection, processing, storage, maintenance, use, and destruction. The plan could also include designating an individual to oversee the privacy and security of the PII from the education records it maintains. For more information, we have posted for comment a technical brief: "Data Stewardship: Managing Personally Identifiable Information in Electronic Student Education Records" that can be found at <http://www2.ed.gov/policy/gen/guid/ptac/technical-briefs.html>
- *Disclose only PII from education records that is needed.* When you consider disclosing PII from education records to an authorized representative for an audit, evaluation, or enforcement or compliance activity, you may want to explore which specific data elements are necessary for that activity and provide only those elements. You should take care to ensure that you are not disclosing more PII from education records than needed for the stated activity and purpose. You should also explore whether PII from education records is actually required, or whether de-identified data would suffice.
- *Know to whom you are disclosing data.* You may want to require your authorized representative to conduct background investigations of employees who will have access to PII from education records, or you may want to conduct these investigations yourself. Additionally, you may want to require your authorized representative to disclose past FERPA or data management violations. If you discover past violations, you would want to explore the circumstances behind the violation, and discover all information that would allow you to make an informed judgment on whether the individual or entity is likely to be a responsible data steward. This may include discovering whether the violation was covered up, including if it was voluntarily reported to affected students or FPCO, and whether appropriate breach response procedures were followed.

- *Verify training.* You may want to verify that your authorized representative has a training program to teach its employees about FERPA and how to protect PII from education records, or you may want to train your authorized representatives yourself.

Are there best practices for written agreements?

You should consider the following items for inclusion in your written agreements for work under both the audit or evaluation exception and the studies exception. We note that this list may not cover everything you want in your agreement – you should look to the facts and circumstances surrounding the disclosure agreement and include all terms necessary to be clear about roles, responsibilities, and expectations for safeguarding PII from education records.

- *Bind individuals to the agreement.* It can be important to bind not just the entity to whom you are disclosing PII from education records, but also the individuals who will be accessing that data. There are several ways to accomplish this result. One way is to identify the individuals in the agreement itself, and have them execute the agreement in their individual capacity as well as having a representative execute the agreement for the entity. Alternatively, your agreement can require individuals accessing the PII from education records to execute affidavits of nondisclosure or other documentation indicating their individual agreement to handle the PII from education records properly.
- *Agree on limitations on use of the PII from education records.* Your agreement should be clear about limitations on the use of the PII from education records, meaning that it can only be used for the activities described in the agreement. Your agreement may also address methodological limitations, for example, identifying which data sets, if any, the PII from education records may be linked.
- *Agree to not redisclose.* The most basic provision of the agreement is to make clear that the PII from education records is confidential and must not be redisclosed through direct data disclosures or publishing results that allow individuals to be directly or indirectly identified. FERPA-permitted entities may wish to require that specified disclosure avoidance methodologies be applied, or may wish to review all results prior to publication, or both.
- *Specify points of contact/data custodians.* Your written agreements should specify points of contact and data custodians (the individuals directly responsible for managing the data in question).
- *Mention Institutional Review Board (IRB) review and approval.* While FERPA does not mention IRBs, research proposals involving human subjects may have to be reviewed and approved by IRBs, if required under protection of human subject regulations of the Department and other Federal agencies. If IRB review and approval is required or expected, this may be noted in the written agreement.
- *State ownership of PII from education records.* You may wish for your agreement to be clear that, in disclosing PII from education records to an entity, you are in no way assigning ownership of the PII or records to that entity, and that it may only be

redisclosed with your permission or otherwise in compliance with FERPA and its regulations.

- *Identify penalties.* Your agreement could include penalties under State contract law such as liquidated damages, data bans of varying length, and any other penalties the parties to the agreement deem appropriate. You may want your agreement to create third-party beneficiary rights, e.g., allowing parties injured by a data breach to sue for damages. While FERPA itself has little flexibility for sanctions, you can include a wide range of appropriate sanctions in your written agreements.
- *Set terms for data destruction.* As discussed previously, written agreements for both studies and audits and evaluations are required to contain provisions dealing with the destruction of PII from education records when those records are no longer needed. The agreement could include a method for documenting the destruction, such as the use of notarized statements.
- *Include funding terms.* If the agreement involves cost reimbursement, these details could be specified.
- *Maintain right to audit.* You may want to include the right to conduct audits or otherwise monitor the entity to which you are disclosing PII from education records to periodically affirm that the entity has appropriate policies and procedures in place to protect the PII from education records.
- *Identify and comply with all legal requirements.* It is important to remember that FERPA may not be the only law that governs your agreement. The agreement could broadly require compliance with all applicable Federal, State, and local laws and regulations, and identify the legal authority (whether express or implied) that permits the audit, evaluation, or enforcement or compliance activity.
- *Have plans to handle a data breach.* While no one anticipates a data breach, data loss may occur. You may wish to include specific procedures in your written agreements detailing the parties' expectations in the event that PII from education records is lost, including specifying the parties' responsibilities with regard to breach response and notification and financial responsibility.
- *Review and approve reported results.* If applicable, the written agreement could specify the parties' agreements with respect to publication of results. For example you may wish to review and approve reports prior to publication to make sure that they reflect the original intent of the agreement.
- *Define terms for conflict resolution.* The agreement could specify procedures for how disputes between the parties would be resolved.
- *Specify modification and termination procedures.* The agreement could specify how it can be modified or terminated. You may wish to provide specific provisions for termination based on improper handling of PII from education records.

What do I do if the terms of the written agreement are violated?

If the entity to which you have disclosed PII from education records without consent (whether under the studies exception or the audit an evaluation exception) violates the terms of the written agreement, you should evaluate your options under the penalty and termination provisions of the agreement. You may want to stop disclosing PII from education records to that organization, or

pursue legal redress. If you have reason to believe that the entity has violated FERPA, you should contact FPCO.

How should the public be informed?

It is a best practice to keep the public informed when you disclose PII from education records.

- *Inform the public about written agreements.* Transparency is a best practice. You might want to post your data sharing agreements on your Web site, or provide some equivalent method to let interested parties know what data you are disclosing, the reasons it is being disclosed, and how it is being protected. While the Department generally recommends public posting of written agreements, parties are encouraged to review their contractual data security provisions carefully and redact, prior to publication, any provisions that may aid those seeking unauthorized access to systems. In certain instances a separate confidential IT Security Plan may be appropriate. For more information on data security best practices, see the Privacy Technical Assistance Center (PTAC) Web site: <http://www2.ed.gov/policy/gen/guid/ptac/index.html>

Who should I call if I have questions?

If you would like more information about best practices to protect PII from education records, contact the PTAC Help Desk at PrivacyTA@ed.gov or 855-249-3072.

If you are a parent, eligible student, school, LEA, or SEA and would like more information on FERPA, please call OCPO at 1-800-872-5327.

SAMPLE NOTIFICATION OF RIGHTS UNDER FERPA

**BRISTOL PUBLIC SCHOOLS
Bristol, Connecticut**

Dear Parent or Student:

The Family Educational Rights and Privacy Act (FERPA) affords parents and students over 18 years of age (“eligible students”) certain rights with respect to the student’s education records. They are:

1. The right to inspect and review the student’s education records within 45 days of the day the District receives a request for access.

Parents or eligible students should submit to the school principal (or appropriate school official) a written request that identifies the record(s) they wish to inspect. The principal/school official will make arrangements for access and notify the parent or eligible student of the time and place where the records may be inspected.

2. The right to request the amendment of the student's education records that the parent or eligible student believes are inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA.

Parents or eligible students may ask the District to amend a record that they believe is inaccurate. They should write the school principal or appropriate school official, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading, or otherwise violates the student’s privacy rights.

If the District decides not to amend the record as requested by the parent or eligible student, the District will notify the parent or eligible student of the decision and advise them of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the parent or eligible student when notified of the right to a hearing.

3. The right to provide written consent before District disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent.

NOTIFICATION OF RIGHTS UNDER FERPA

One exception which permits disclosure without consent is disclosure to school officials, including teachers within the District, with legitimate educational interests. A school official is a person employed by the district as an administrator, supervisor, instructor, or support staff member (including health or medical staff and law enforcement unit personnel); or a person serving on the Board of Education. A school official may also include a volunteer or contractor outside of the District who performs an institutional service or function for which the District would otherwise use its own employees and who is under the direct control of the District with respect to the use and maintenance of personally identifiable information from education records. This includes a person or company with whom the District has contracted to perform a special task (such as an attorney, auditor, medical consultant or therapist); a parent of student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his/her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his/her professional responsibility.

Contractors, consultants, volunteers, and other parties to whom a school has out sourced services or functions are considered “school officials” who may have access to student records, without consent, subject to following conditions:

- The party is under the direct control of the school.
- The party is subject to the same conditions governing the use and redisclosure of education records applicable to other school officials.
- The contractor must ensure that only individuals with legitimate educational interests, as determined by the district or school, obtain access to the education records. The contractor may not redisclose personally identifiable information without consent unless the District or school has authorized the redisclosure under a FERPA exception and the district or school records the subsequent disclosure.

Upon request, the District will disclose a student’s education record without consent to officials of another school district or charter school or institution of postsecondary education in which the student seeks or intends to enroll or where the student is already enrolled, if the disclosure is for purposes related to the student’s enrollment or transfer. (Note: FERPA requires a school district to make a reasonable attempt to notify the student of the records request unless it states in its annual notification that it intends to forward records on request.)

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the District to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Office of the Chief Privacy Officer (OCPO)
U.S. Department of Education

NOTIFICATION OF RIGHTS UNDER FERPA

11. The District has determined that the following information regarding the District's students is not harmful or an invasion of privacy, and therefore will release this information without first obtaining parental consent. If a parent, guardian, person acting as a student's parent in the absence of a parent or guardian, or the student (if 18 or older), does not want the District to release the information listed below, they must notify the District in writing within two weeks of receiving this notice of the information they do not want released.

The following information may be released without obtaining parental consent:

Student's name, parent's name, address, telephone number, electronic mail address, date and place of birth, grade level, major field of study, enrollment status (full-time or part-time), participation in officially recognized activities and sports including audiovisual or photographic records of the openly visible, activities thereof (e.g. artistic performances sporting contests, assemblies, service projects, awards ceremonies, etc.), weight and height of members of athletic teams, dates of attendance, degrees, honors and awards received, most recent previous school attended and photographs of regular school activities that do not disclose specific academic information about the child and/or would not be considered harmful or an invasion of privacy.

A student's ID number or otherwise unique personal identifier displayed on a student ID badge is considered directory information, but only if the identifier cannot be used to gain access to education records except when used in conjunction with one or more factors that authenticates the user's identity, such as a PIN, password, or other factors known only to the authorized user.

12. Pursuant to federal law, military recruiters and institutions of higher learning may request and receive the names, addresses and telephone numbers of all high school students, unless their parents or guardians notify the school not to release this information. Please notify the District in writing if you do not want this information released.
13. Personally identifiable information in the student's records may be released to authorized representatives of the Attorney General of the United States, the U.S. Secretary of Education, or State and local educational authorities such as the Connecticut Department of Education in connection with an audit or evaluation of Federal or State supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs, and to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation, or enforcement or compliance activity on their behalf.

NOTIFICATION OF RIGHTS UNDER FERPA

14. Schools may release information received under a community notification program concerning a student who is required to register as a sex offender in the State, with consent.
15. Except for disclosures to school officials, disclosures related to some judicial orders or lawfully issued subpoenas, disclosures of directory information, and disclosures to the parent/guardian or eligible student, FERPA regulations require the District to record the disclosure. Parents and eligible students have a right to inspect and review the record of disclosures.
16. Information may be disclosed from the education records of a student without obtaining prior written consent of the parents or the eligible student in the following situations:
 - j. In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid.
 - k. To State and local officials or authorities to whom information is specifically allowed to be reported or disclosed by a State statute that concerns the juvenile justice system and the system's ability to effectively serve, prior to adjudication, the student whose records were released.
 - l. To organizations conducting studies for, or on behalf of, the school, in order to:
 - (a) develop, validate, or administer predictive tests;
 - (b) administer student aid programs;
 - (c) improve instruction.
 - m. To accrediting organizations to carry out their accrediting functions.
 - n. To parents of an eligible student if the student is a dependent for IRS tax purposes.
 - o. To comply with a judicial order or lawfully issued subpoena.
 - p. To appropriate officials in connection with a health or safety emergency.
 - q. Information the school has designated as "directory information."
 - r. To child welfare agencies, or tribal organizations that are legally responsible for the care and protection of students, including the educational stability of children in foster care.

Students

Conduct

Video Surveillance

The Board of Education recognizes the District's responsibility to maintain order, discipline, safety and security on school property and in school vehicles. The Board also desires to afford students and staff privacy in respect to the records maintained by the District. The Board recognizes the value of electronic surveillance systems in monitoring activity on school property and in school vehicles in protecting the health, welfare and safety of its students and staff. The students and staff of the District recognize that their security and safety depends upon the capacity of the district to maintain discipline, control building access, and that a certain amount of restraint upon the activities of students and building visitors is assumed and expected.

The Board of Education having carefully weighed and balanced the rights of privacy of students and staff against the District's duty to maintain order discipline, safety and security finds that it is appropriate to provide for the use of video camera surveillance in its transportation vehicles and on school grounds as follows:

1. The District shall notify its students, staff and the public that video surveillance may/will occur on any school property or on any transportation vehicle. The District shall incorporate said notice, in such places as, but not limited to, in the student handbook, District calendar, staff handbook and District website;
2. The use of video surveillance equipment on transportation vehicles shall be supervised by the District transportation supervisor. The use of video surveillance equipment on school grounds and on other District property shall be supervised and controlled by the building administrator or other responsible administrator;
3. The use of video recordings from surveillance equipment shall be subject to the other policies of the District including policies concerning the confidentiality of student and personnel records;
4. Video surveillance shall only be used to promote the order, safety and security of students, staff and property.

Students

Conduct

Video Surveillance

Video Surveillance System Operation

1. The Board authorizes the administration to use video surveillance: 1) to monitor and protect District property; 2) to foster the safety and security of students, staff, and visitors while at work or participating in school functions; 3) in response to specific inquiries and proceedings relating to law enforcement; and 4) when warranted, for specific student discipline. Videotapes may not be used for any other purposes.
2. Video cameras will be utilized on school grounds and on buses as recommended by building administration and approved by the Superintendent. The District shall notify students, staff, and the public that video surveillance may occur on school property. Such notification will occur through incorporation in the school parent/student handbooks, District and school websites and through clearly written signs displayed near the main entrance of each school. Cameras may only be installed on buses with prior notice to drivers.
3. Video recording equipment will be installed prominently. Equipment should not monitor areas where the students, employees and public have a reasonable expectation of privacy, such as locker rooms and adult and student restrooms. Video recording equipment may be in operation 24 hours per day, and monitored “live” by local law enforcement personnel.
4. The use of video surveillance equipment on school grounds shall be supervised and controlled by the building Principal and/or School Resource Officer and on the school buses by the Superintendent or Transportation Supervisor. The building Principal operates the system and maintains the recordings. Any further delegation should be limited and should include only administrative staff.
5. Video recordings should only be reviewed where there is a need to do so, either because an incident has been reported or is suspected to have occurred. Examples of such include, but are not limited to: incidents of property damage, theft, trespassing, personal injury, or student, staff or visitor altercations, etc.
6. Administrative staff and School Resource Officer assigned to the video surveillance system will be required to review and apply these regulations in performing their duties and functions related to operation of the system. All staff and students shall be made aware of the Board’s video surveillance policy. The regulations shall be incorporated into training and orientation programs. It shall be the responsibility of the Superintendent and school administration to review and update the regulations periodically.

Students

Conduct

Video Surveillance

Video Surveillance System Operation (continued)

7. Audio shall not be a part of the video recordings made, reviewed, or stored by District staff.
8. Staff and students are prohibited from unauthorized use, tampering with or otherwise interfering with video recordings and/or video camera equipment and will be subject to appropriate disciplinary action. Disciplinary action shall be consistent with District policies.
9. The District shall provide reasonable safeguards including, but not limited to, password protection, well managed firewalls and controlled physical access to protect the surveillance system from hackers, unauthorized users and unauthorized use.
10. Video monitors shall be located in administrative offices at the school. Video monitors shall not be located in an area that enables public viewing. Local law enforcement personnel shall also have the ability to monitor the system. Parental requests to inspect video surveillance must be made in writing. Any such viewings must be compliant with the requirements of FERPA and Connecticut's FOIA.
11. Video surveillance equipment will be used in accordance with all Board of Education policies including the District's nondiscrimination policy and student records policy. (#5125).

Storage/Security

1. Video recordings will be stored for a minimum of five school days after initial recording, where upon if the Principal and/or designee know no reason for continued storage, such recordings will be released for erasure. The vehicle for storage will be dependent upon the type of system installed, which could vary from school to school and with the introduction of any new technology.
2. Video recordings held for review of property or student incidents will be maintained in their original form pending resolution. Recordings will then be released for erasure, copied for authorized law enforcement agencies, or retained as necessary as part of the student's record in accordance with established procedures and applicable law.

Requests to View Video Surveillance

Requests to review video recordings shall comply with all applicable state and federal laws and with Board Policy. All requests for review of video recordings that are considered an educational record will be as follows:

Students

Conduct

Video Surveillance

Requests to View Video Surveillance (continued)

1. All viewing requests must be submitted in writing. Requests for viewing will be limited to those parents/guardians, students and/or District officials with a direct interest in the proceedings as authorized by the Principal and only the portion of the video recording concerning the related specific incident will be made available for viewing. An entire video, in a specific disciplinary situation, may be inspected and reviewed if the video “cannot be segregated or redacted without destroying its meaning.”
2. Written requests for viewing may be made to the Principal within five school days of the date of recording. (note: The number of days may need to be altered based upon the system used by the district.)
3. Approval/denial for viewing will be made within five school days of receipt of the request and so communicated to the requesting individual. (note: same as #2)
4. Video recordings will be made available for viewing within three school days of the request approval.
5. Actual viewing will be permitted only at school-related sites including the school buildings, or District office.
6. All viewing will include the building Principal or his/her designee.
7. A written log will be maintained of those viewing video recordings including the date of viewing, reasons for viewing, date the recording was made, location at school or central office, and signature of the viewer.
8. Video recordings will remain the property of the District and may be reproduced only in accordance with the law, including applicable Board policy and regulations.
9. Time lines may be altered for requests for viewing which arise at the end of a school year or prior to vacation periods.

Student Records

1. Video recordings may become a part of a student’s educational record. The District shall comply with all applicable state and federal laws and District Board policies related to record maintenance and retention. (FERPA, FOIA)
2. Parents/students and the public will not be specifically notified when a video camera is in use.

Regulation approved:

BRISTOL PUBLIC SCHOOLS
Bristol, Connecticut

NOTICE TO STUDENTS AND PARENTS REGARDING THE USE OF
VIDEO RECORDERS ON SCHOOL BUSES

Video cameras will be in use on school buses to monitor school transportation and will be video recording bus routes at random during the upcoming school year. Students will not be notified when a recording device has been installed on their bus.

Recordings shall be reviewed on a routine basis by the principal and evidence of student misconduct will be documented. Students found to be in violation of the district's bus conduct rules, as contained in the student handbook, shall be notified and disciplinary action will be initiated under the guidelines contained in the district's discipline procedures for district-approved student transportation.

Video recordings shall be treated as protected student records under the Family Educational Rights and Privacy Act. The following guidelines shall apply:

1. Recordings shall remain in the custody of the school district;
2. Parents or students over the age of 18, who wish to view a video recording in response to disciplinary action taken against a student may request such access under the procedures set out in the Student Records Management policy of the district;
3. Persons unrelated to a disciplinary incident shall not be permitted to view bus videotapes.

ACKNOWLEDGEMENT

I understand and acknowledge the district's procedures concerning the use of video recorders on school buses. I also understand that my student _____, shall be held accountable for his/her conduct on district transportation and for the consequence outlined in the district's discipline procedures for district-approved student transportation.

Parent/Guardian

Date

Video Surveillance Notification to Post on School Property

The Board of Education has authorized the use of electronic surveillance systems on school property and on school buses transporting students. The system will be used to monitor student behavior and building visitors in order to promote and maintain a safe and secure environment for all students and staff. Students and parents are hereby notified that the content of the surveillance system may be used in a student disciplinary proceeding. Surveillance content will be routinely erased on a periodic basis or be retained if necessary for use in a student disciplinary proceeding or other matter as determined necessary by the administration. Parents may request to view surveillance contents used in a disciplinary proceeding involving their child.

In addition, visitors to the school site should be aware that local law enforcement officials monitor the video surveillance

Students

Search and Seizure

1. Search of a Student and His/Her Effects

- A. All searches of students shall be conducted or directed by an authorized school administrator, i.e., the principal or vice principal, in the presence of a witness.
- B. A search of a student's handbag, gym bag, cellular telephone, personal electronic device or similar personal property carried by a student may be conducted if there are reasonable grounds for suspecting that the search will produce evidence that the student has violated or is violating either the law or the rules of the school. A student's other effects are also subject to the same rule. Effects may include motor vehicles located on school property.
- C. A search of a student's person may be conducted only if there are reasonable grounds at the inception of the search for suspecting that the search will reveal evidence that the student has violated or is violating either the law or the rules of the school. Moreover, the scope of the search shall be reasonably related to the objectives of the search and shall not be excessively intrusive in light of the age and sex of the student and the nature of the infraction. Metal detectors, breathalyzers and/or drug sniffing dogs may be used to detect the presence of contraband, including weapons, drugs or alcohol, in furtherance of this policy and to the extent authorized by law.
- D. Strip searches are prohibited except when there are reasonable grounds for suspecting that such a search will produce evidence of conduct which places students, staff or school property in immediate danger. Such searches may be conducted at the request of the school principal, generally by a member of the police department. During such searches, a member of the school staff shall be present at all times as a witness, and both the police officer conducting the search and the witness shall be of the same sex as the student searched.
- E. Any evidence of illegal conduct or conduct violative of the rules of the school produced as a result of searches according to these regulations shall be subject to seizure. Where required by law and otherwise at the option of the building principal, such evidence shall be submitted to the police department for proper disposition. Evidence not submitted to the Police Department shall be disposed of as directed by the building principal.

2. Search of a Locker, Desk and Other Storage Area

- A. The Board of Education provides lockers, desks, gym baskets and other storage areas in which students may keep and store personal belongings and materials

provided by the Board of Education. Such storage areas are the property of the Board of Education.

R5145.12(b)

Students

Search and Seizure

2. Search of a Locker, Desk and Other Storage Area (continued)

- B. No student shall keep or store personal belongings or materials provided by the Board of Education in any storage area other than one provided by the Board of Education and designated for his/her use by the school administration.
- C. Each student shall be responsible for maintaining any storage area assigned to him/her for his/her use in an orderly and sanitary condition.
- D. No student shall keep or store in a storage area assigned to him/her for his/her use any item the possession of which is illegal or in violation of school regulations or that endangers the health, safety or welfare of self or others (such as matches, chemicals, ammunition, weapons, drugs, tobacco, alcoholic beverages, etc.).
- E. The use of lockers and other storage areas by students is a privilege. At all times such storage areas remain the property of the Board of Education. If the school administration reasonably suspects that a student is not maintaining a storage area assigned to him/her in a sanitary condition, or that the locker contains items the possession of which is illegal or in violation of school regulations or that endangers the health, safety or welfare of the student or others, it has the right to open and examine the storage area and to seize any such items that are found. The school administration may authorize law enforcement officials to search lockers/storage areas in accordance with Board Policy 5145, Section 2(A).
- F. When required by law and otherwise at the option of the building principal, items that have been seized shall be submitted to the police department for proper disposition. Items not submitted to the police department shall be disposed of as directed by the building principal.

Legal Reference: Connecticut General Statutes
10-221 Boards of education to prescribe rules
54-33n Searches
New Jersey v. T.L.O., 469 US 325; 105 S.Ct.733
Stafford Unified District #1 v. Redding, U.S. Sup. CT 08-479

BRISTOL PUBLIC SCHOOLS
Bristol, Connecticut
Student Search Form

1. Name, age and sex of student: _____

2. Time and location of search: _____

3. Basis for search and nature of reasonable suspicion. What factors caused you to have a reasonable suspicion that the search of this student, his/her person or property assigned by the District for student use, would turn up evidence of a violation of law, Board policy, administrative regulation or school rule or which possession or use of is prohibited by law, policy, regulation or rule? Explain.

4. Describe exactly what was searched:

5. What did the search yield? Were any prohibitive materials seized? Were seized items/materials turned over to the police? Parents? Other? Explain.

6. Name of the witness and title/position to the search:

7. Notifications: Parent/Guardian _____
 Law Enforcement _____
 Other _____

8. Name of District official and title/position conducting the search.

Instruction

Graduation Requirements

I. Introduction

To graduate from the Bristol Public Schools a student must have earned a minimum of 25.25 credits and must have met the credit distribution requirement, effective with the class of 2012. Students must also meet two performance standards: writing and mathematics.

The Board of Education shall award a high school diploma to any World War II veteran requesting such diploma who left high school for military services as defined in the statutes.

II. Credit Distribution Requirement: The following credits must be earned:

- A. English - 4 credits
- B. Mathematics - 3 credits
- C. Social Studies - 3 credits including 1.0 in United States History and .5 in Civics
- D. Science - 2 credits
- E. Physical Education - 2 credits
- F. Health - .25 credit
- G. Career and Technical Education/Fine Arts - 1 credit

III. Credit Requirements for Seniors Transferring from another High School

When a student transfers into a Bristol high school, entering as a senior, having completed all credit requirements for the junior year at the previous high school, a review of the number of credits required for graduation at the previous high school will be completed by the guidance counselor. If the credit requirements for graduation at the previous high school are fewer than the required 25.25 Bristol credits, the principal will make the final determination about the number of credits required to be earned in the senior year in order to for the student to graduate from a Bristol high school. This provision will only apply to a student entering a Bristol high school as a transferring senior. If a student transfers into the Bristol Public Schools after completing at least three years in a high school in another district, he/she may be exempted from Bristol's performance standards requirement for graduation.

IV. Courses for Credit

Only courses taken in grades nine through twelve, inclusive shall satisfy this graduation requirement with the following exceptions:

A. World Language courses taken privately through non-profit provider.

1. Students shall be granted credit towards meeting high school requirements for privately completing a world-language course provided by a non-profit organization and passing a subject area proficiency test identified and approved by the Commissioner of Education.
2. Up to four credits for a private, non-profit world language course shall be granted if the student achieves a passing grade on a test prescribed by the Commissioner of Education.

B. Online Courses

1. All credits earned toward meeting any of the graduation requirements through the successful completion of online courses must fulfill the requirements established in policy #6172.6, "Virtual/On-line Courses."

C. Higher Education courses

1. A student shall be granted credits for the successful completion of coursework at an institution accredited by the Department of Higher Education or a regionally accredited institution.
2. One three-credit semester course, or its equivalent, shall equal one-half high school credit.

D. High School courses taken in grades seven or eight

1. A student shall be granted high school credit for taking Algebra I and/or Geometry at the seventh and eighth grade level. The Algebra I and Geometry courses shall be the same course and same exams as at the high school level.
2. To be eligible for this credit, a student must take three years of mathematics in grades nine through eleven. Upon completion of the third year of mathematics at the high school level, that is at the end of the junior year, the credit for Algebra I and/or Geometry, taken while in grade seven or eight, will be awarded.

V. **District's Performance Standards:** The following performance standards must be met.

A. Writing and Mathematics Performance Standards

1. Students will have achieved the District Performance Standards if they have met the following for each performance area.

Class of 2017/2018:

Earn a score of 450 on the PSAT or SAT in Math or Evidence Based Reading and Writing or a combined score of 900

OR

Earn an equivalent score on a district alternative assessment

Class of 2019 and later:

Meet the SAT benchmarks for the CT Next Generation accountability system in:

- ***Evidence-Based Reading and Writing***
- ***Math***
- ***College and Career Readiness Indicator (combined score)***

OR

Earn an equivalent score on a district alternative assessment

2. Students who did not meet the graduation performance standard by scoring at the proficient level on an assessment will have at least five opportunities over the course of their junior and senior year to complete the performance standard in each area, if attending Bristol Central or Bristol Eastern for the full junior and senior years.
3. Transfers: If a student transfers into the Bristol Public Schools after completing at least three years in a high school in another district, he/she may be exempted from Bristol's performance standards requirement for graduation.
4. Special Needs: Students with special needs may meet the district performance standards for graduation in a modified manner if so indicated in their Individual Education Plan.
5. English Language Learners -
 - a. English Language Learners, who are in their first year of enrollment in a U.S. school, i.e. have been enrolled for the first time in a U.S. school and have been in attendance for 10 months or less, are exempt from the graduation requirements.
 - b. English Language Learners, who are not proficient on the state mandated English Mastery test (score a Level 1, 2, 3), shall meet the writing performance standard and the mathematics performance standard by participating in an alternative assessment designed for English Language Learners.

6. Notification

- a. Of teachers: The high school administration will notify teachers of the junior scores upon their receipt at the school and provide to teachers (in subject areas with required performance tasks) a list of all juniors who have not met the performance standard in the teachers' area. At the beginning of the school year, the administration will provide to teachers (in subject areas with required performance tasks) a list of all seniors who have not met the performance standard in the teachers' areas.
- b. Of students: The administration will notify those juniors who did not meet the performance standard in writing and/or math upon receipt of the scores and of their options to meet the performance standard. At the beginning of the school year, each senior shall be notified by his/her guidance counselor of his/her status relative to meeting the performance standards for graduation.
- c. Of parents: The administration will notify, in writing, the parents of juniors and seniors who have not met the performance standard goal in any area and thus must pass one or more of the district performance tasks in order to graduate. Parents of juniors and seniors will be informed, in writing, of the options for juniors and seniors to meet the performance standard(s).

VI.: Options if Requirements Are Not Met

Seniors who are not eligible for graduation with their class due to a failure to meet the district graduation requirement for the credit distribution and meeting the performance standard in writing and mathematics, as per policy as described above, may select one of the following options:

- A. Return in September as a fifth year student.
- B. Enroll in summer school to obtain course credit for courses failed.
- C. Enroll in courses to be designated through the Bristol Adult Education Program and receive the Bristol Adult High School Diploma.
- D. Make arrangements for re-testing or re-submission of a portfolio to meet the performance standard for writing and/or retake the alternative assessment in mathematics.
- E. Return in September as a fifth year student.
- F. Enroll in summer school to obtain course credit for courses failed.
- G. Enroll in courses to be designated through the Bristol Adult Education Program and receive the Bristol Adult High School Diploma.
- H. Make arrangements for re-testing or re-submission of a portfolio to meet the performance standard for writing and/or retake the alternative assessment in mathematics.

Legal References: Connecticut General Statutes

[10-221a](#) High school graduation requirements (As amended by P.A. 00-124, An Act Concerning High School Diplomas and Veterans of

World War II, P.A. 00-156, An Act Requiring A Civics Course for High School Graduation and P.A. 08-138, An Act Concerning High School Credit for Private World Language Courses Other Subject Areas)

[10-223a](#) Promotion and graduation policies

[10-17F\(d\)](#) Requirement of bilingual education program

Public Act No. 01-205 An Act Concerning Mastery Test Exemptions

2002 Title III No Child Left Behind

State of Connecticut, Department of Education, Circular Letter: Series 2008-2009, C-10

Policy Adopted: April 5, 1995

Policy Revised: April 1, 1998

Policy Revised: May 1, 2002

Policy Revised: June 2, 2004

Policy Revised: April 5, 2006

Policy Revised: December 5, 2007

Policy Revised: August 20, 2008

Policy Revised: August 17, 2011

Policy Revised: February 13, 2013

Policy Revised: July 6, 2016

6146

Regulation

Instruction

Graduation Requirement Regulations

I. Proficiency for Awarding of Credit for World Language Courses Offered Privately Through a Non-Profit Provider as Prescribed by the Commissioner of Education

A. Students must complete a world language course offered privately through a non-profit provided and pass the prescribed examination. The cost of this course will not be borne by the district.

B. Students requesting such credit shall take the American Council on the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview (OPI) together with the ACTFL Written Proficiency Test (WPT), administered by LTI, the ACTFL Testing Office.

C. In order to earn credits under this program, students must take the OPI and WPT in the same language. The chart below lists the maximum credit to be awarded for each language category and test level. This recommendation is based on the ACTFL's categorization of the difficulty of the language and the official OPI and WPT rating that is achieved. The cost for these tests will not be borne by the district.

Granting High School Credit for Private World Language Courses in Connecticut				
Developed in Collaboration with the American Council on the Teaching of Foreign Languages (ACTFL)				
Official ACTFL OPI/WPT Rating	Category I, e.g., Dutch, French, Italian, Spanish, Portuguese, Swahilli	Category II, e.g., German, Hindi, Modern Greek, Urdu	Category III, e.g., Cambodian, Czech, Hebrew, Polish, Russian, Vietnamese	Category IV, E.g., Arabic, Cantonese, Japanese, Korean, Mandarin
Novice High	1	1	2	2
Intermediate Low	2	2	3	3
Intermediate Mid	4	4	4* (6)	4* (6)
Intermediate High	4* (6)	4* (6)	4* (8)	4* (8)
In order to earn credits, students must take both the OPI and the WPT in the same language. If the ratings differ, the credits will be awarded based on the lower of the two ratings. Students can take the tests in grades 9-12.				

*Four credit maximum allowed under state law even though ACTFL credit equivalency, in parentheses, suggests awarding more credit for higher proficiencies in more difficult languages.

II. Performance Objectives in Writing and Mathematics

A. The performance objective in writing is:

The students will read an article or story and respond critically in writing to a question called a prompt.

B. The performance objective in mathematics is:

The student will satisfactorily complete mathematical problems from the four mathematical strands assessed on the CAPT test [Number & Quantity; Measurement & Geometry; Statistics, Probability & Discrete Math; and Algebra & Functions]. The student will be required to show all work and for open-ended items, explain the answer in writing. The student will be provided with any required formulas and may use a calculator in completing the problems.

III. Grade Classification

A. If a student is retained in grade 10, that student again takes the CAPT in grade 10. If a student is classified as a grade 11 student and has failed to meet the writing proficiency standard on the CAPT in grade 10, that student must be enrolled in a grade 11 English Language Arts class. If a student is classified as a grade 11 student and has failed to meet the mathematics proficiency standard on the CAPT, that student may be enrolled in the Applied Mathematics course or be offered before or after school tutoring.

IV. Administration of Alternative Assessment for Juniors and Seniors Who Have Not Met the Performance Standard for Graduation in Writing and/or Mathematics

A. Writing

1. English language arts teachers will require all students (except ELL students scoring Levels 1, 2, 3 on the state English Mastery test) to maintain a portfolio of their writing. At least two pieces of persuasive or analytical writing per quarter must be collected in the student's portfolio. At the end of the first, second, and third quarters, students who have not yet demonstrated

proficiency will select a piece of writing from their portfolio to be scored by the scoring committee. An essay from the district common assessment administered in January may be one of the pieces that is submitted to the scoring committee. Seniors, who do not meet the performance standard during the junior year and do not receive a modification or exemption, will take a writing course in the senior year. Students will have two opportunities to submit a portfolio of writing as part of a writing course during the senior year as the final opportunity for meeting the performance standard in writing. Teachers in other classes may submit writing samples to the scoring committee from students who have not yet met the performance standard.

2. Only the papers of students who scored below the proficient level on the 10th grade CAPT Writing Across the Disciplines assessments will be scored by a committee, and that score will determine whether or not the student has met the writing graduation requirements. A score of 7 out of 12 is required to pass. For seniors who are submitting a portfolio as part of a course, a minimum of three pieces of writing must be submitted; one of the three pieces in the portfolio must receive a passing score for the portfolio to be accepted as meeting the performance standard. Students may submit a portfolio at the end of the first semester of the senior year and by June 1 of the senior year. Students who are not participating in a writing course during the senior year (due to, for example, scheduling conflicts, expulsion, homebound tutoring, participation in an alternative ed program) must receive a passing score on one piece of writing submitted no later than June 1 of the senior year.

3. Papers will be scored without student names on the paper. Each paper will be scored by at least two (2) scorers from a team of at least three teachers using a rubric with a six-point scale assessing position, support, organization, and fluency. The team will be appointed by the Deputy Superintendent or his/her designee. An anchor set will be developed and used in scoring. The rubric is a list of criteria needed for each score, which the students know in advance of the test. In the event of a discrepancy (two scores more than one number apart) the paper will be read by a third scorer who will resolve the discrepancy.

4. English Language Learners at Level 1, 2, 3 on the state mandated English Mastery test, will complete a functional writing assignment a minimum of two times per year in the junior and senior years. Improvement on the functional writing assessment, pre and post, will be required to meet the graduation requirement in writing. The ELL English & TESOL teacher will also maintain a portfolio for identified ELL students. Using the Writing Rubric

from the LASLinks, the contents of the portfolio will be graded on samples of: narrative, descriptive, persuasive, and analytical.

B. Mathematics

1. During the junior year, students will have the opportunity to participate in an alternative math assessment four times, once at the end of each quarter. The teacher of the Applied Math support class, assisted by other mathematics teachers, will score the alternative assessments. A score of 7 out of 20 possible points is required to pass the alternative assessment.

2. Students who have not satisfactorily demonstrated the district's standard in mathematics during the junior year, or who do not qualify for a modification or an exemption will be required to take the Applied Mathematics course in the senior year. During the senior year, students will have the opportunity to participate in an alternative math assessment four times, once at the end of quarter one, two and three with the fourth opportunity occurring at the end of May and prior to June 1. The teacher of the Applied Math support class, assisted by other mathematics teachers, will score the alternative assessments. A score of 7 out of 20 possible points is required to pass the alternative assessment.

3. English Language Learners at Level 1, 2, 3 on the state mandated English Mastery test, will complete an alternative ELL Math Assessment. ELL students will have the opportunity to participate in this assessment at least twice per year in Sept/Jan/Apr/May. The ELL Math teachers will review the results of the alternative assessments. Improvement on the functional math assessment, pre and post, will be required to meet the graduation requirement in mathematics. If requested, the alternative assessment will be given in Spanish.

VI. Notification of and Reporting to Parents - Writing and Mathematics

A. Notification

1. Continuing current practice, parents of 10th graders will be notified of their child's CAPT results in the fall of their junior year.

2. Parents of 11th grade students who did not meet the graduation requirement in writing and/or mathematics by scoring at or above the proficient level on the CAPT in grade 10 will be notified in writing in the fall of the junior year that their child has not met proficiency on the CAPT and

therefore, has not met the requirements for graduation. An explanation of the opportunities for the student to meet the performance standard for graduation will be provided in writing. Parents will be requested to return a signed notification form indicating receipt of the letter.

3. Parents of 11th and 12th graders will be notified of their child's proficiency level on the performance assessment at the end of each marking period via their child's report card.

4. Prior to the beginning of the senior year, each high school administration will notify parents by mail that their child has not passed one or more assessments by the end of the junior year. Parents will be requested to return a signed notification form indicating receipt of the letter.

5. All notifications will include a description of opportunities for meeting the performance standard in writing and/or mathematics.

B. Notification of not meeting the performance standard for graduation

1. The high school principal or designee will notify parents and students who have not met the performance standard for graduation using the same procedures as in place for informing students and parent hat graduation requirements have not been met.

VII. Appeals

A. Writing

1. Students whose score on the assessment is 6 points out of 12 will be allowed to appeal their score. Students must submit their request for an appeal to the principal within 20 school days of receiving their score. A student must submit a statement, using the scoring rubric, demonstrating why their score is incorrect. If an appeal is made, the paper will be submitted anonymously to a teacher trained in writing assessment scoring.

2. The independent assessor will be selected by the Deputy Superintendent or his/her designee.

3. The outcome of the independent review will be sent to the principal. The principal will communicate the results of the independent review to the student and parent(s)/guardian(s).

B. Process

Any student may appeal the scoring of their writing paper and/or the mathematics assessment score in writing within 20 days of receiving the score to the Superintendent if they believe the process described in these regulations was not followed. The Superintendent will review the case to assure that all regulations were followed. If the Superintendent finds the regulations were not followed, the Superintendent will order a special assessment.

Regulation Approved: May 1, 2002

Regulation Revised: June 2, 2004

Regulation Revised: April 5, 2006

Regulation Revised August 20, 2008

Regulation Revised August 17, 2011

6146 Instruction

Graduation Requirements

I. Introduction

To graduate from the Bristol Public Schools a student must have earned a minimum of 25.25 credits and must have met the credit distribution requirement, effective with the class of 2019. Students must also meet two performance standards: evidenced-based reading and writing and mathematics.

The Board of Education shall award a high school diploma to any World War II veteran requesting such diploma who left high school for military services as defined in the statutes.

II. Credit Distribution Requirement: The following credits must be earned:

- A. English - 4 credits
- B. Mathematics - 3 credits
- C. Social Studies - 3 credits including 1.0 in United States History and .5 in Civics
- D. Science - 3 credits
- E. Physical Education - 2 credits
- F. Health - .25 credit
- G. Career and Technical Education/Fine Arts - 1 credit

1. Beginning with the Class of 2022, students will need one credit in Career and Technical Education and one credit in Fine Arts

III. Credit Requirements for Seniors Transferring from another High School

When a student transfers into a Bristol high school, entering as a senior, having completed all credit requirements for the junior year at the previous high school, the high school counselor will review the number of credits required for graduation at the student's previous high school. If the credit requirements for graduation at the previous high school are fewer than the required 25.25 Bristol credits, the principal will make the final determination about the number of credits required to be earned in the senior year in order for the student to graduate from a Bristol high school. This provision will only apply to a student entering a Bristol high school as a transferring senior. If a student transfers into the Bristol Public Schools after completing at least three years in a high school in another district, he/she will be exempted from Bristol's performance standard requirements for graduation.

IV. Credit Requirements for Students Attending Bristol Technical Education Center

Students who attend Bristol Technical Education Center for their junior and senior year will attain six credits per year for their coursework successfully completed at the school in addition to the credits they earn through classes taken at Bristol Central or Bristol Eastern High School. Students who attend the Bristol Technical Education Center will earn five

credits in the technical area and one credit in Applied Science for courses successfully completed at the Bristol Technical Center.

V. Courses for Credit

Only courses taken in grades nine through twelve, inclusive, shall satisfy this graduation requirement with the following exceptions:

A. World Language courses taken privately through non-profit provider.

1. Students shall be granted credit towards meeting high school requirements for privately completing a world language course provided by a non-profit organization and passing a subject area proficiency test identified and approved by the Commissioner of Education.
2. Up to four credits for a private, non-profit world language course shall be granted if the student achieves a passing grade on a test prescribed by the Commissioner of Education.

B. Online Courses

1. All credits earned toward meeting any of the graduation requirements through the successful completion of online courses must fulfill the requirements established in policy #6172.6, "Virtual/On-line Courses."

C. Higher Education courses

1. A student shall be granted credits for the successful completion of coursework at an institution accredited by the Department of Higher Education or a regionally accredited institution.
2. One three-credit semester course, or its equivalent, shall equal one-half high school credit.

D. High School courses taken in grades seven or eight

1. A student shall be granted high school credit for taking Algebra I and/or Geometry at the seventh and eighth grade level. The Algebra I and Geometry courses shall be the same course and same exams as at the high school level.
 - a. To be eligible for this credit, a student must take three years of mathematics in grades nine through eleven. Upon completion of the third year of mathematics at the high school level, that is at the end of the junior year, the credit for Algebra I and/or Geometry, taken while in grade seven or eight, will be awarded.

VI. District's Performance Standards: The following performance standards must be met.

A. Evidence-Based Reading and Writing and Mathematics Performance Standards

1. Students who began their high school career in Bristol in the 2014-15 school year will have achieved the District Performance Standards when they have met the following criteria:

Earn a score of 450 on the PSAT or SAT in Math or Evidence-Based Reading and Writing or a combined score of 900.

2. Students who began their high school career in Bristol in the 2015-16 school year and later will have achieved the District Performance Standards when they have met the following criteria:

Meet the SAT benchmarks for the CT Next Generation accountability system in:

- ***Evidence-Based Reading and Writing***
- ***Math***

OR

Earn an equivalent score on a district alternative assessment

3. Students who did not meet the graduation performance standard by meeting the SAT benchmarks or earning an equivalent score on a district alternative assessment by the end of their junior year will have at least four opportunities over the course of their senior year to complete the performance standard in each area, if attending Bristol Central or Bristol Eastern for their senior year.

4. Transfers: If a student transfers into the Bristol Public Schools after completing at least three years in a high school in another district, he/she will be exempted from Bristol's performance standards requirement for graduation.

5. Special Needs: Students with special needs may meet the district performance standards for graduation in a modified manner if so indicated in their Individual Education Plan.

6. English Language Learners

a. English Language Learners, who are in their first year of enrollment in a U.S. school, i.e. have been enrolled for the first time in a U.S. school and have been in attendance for 10 months or less, will be exempt from the graduation requirements.

b. English Language Learners, who are not proficient on the state assessment, LAS Links, (score a Level 1, 2, 3), shall meet the Evidence-based Reading and Writing performance standard and the mathematics performance standard by participating in an alternative assessment designed for English Language Learners.

7. Notification

a. Of teachers: At the beginning of the school year, the administration will provide a list of all seniors who have not met the performance standard to teachers in subject areas with required performance standards.

b. Of students: The administration will notify those juniors who did not meet the performance standard in evidenced-based reading and writing and/or math upon receipt of the scores and of their options to meet the performance standard. At the beginning of the school year, each senior shall be notified by his/her guidance

counselor of his/her status relative to meeting the performance standards for graduation.

c. Of parents: The administration will notify, in writing, by the start of the school year, the parents of seniors who have not met the performance standard and thus must pass the district alternative assessments in order to graduate. Parents of seniors will be notified of their child's attainment of the performance standards for evidenced-based reading and writing and math through their child's report card at the end of each marking period.

VII.: Options if Requirements Are Not Met

Seniors who are not eligible for graduation with their class due to a failure to meet the district graduation requirement for the credit distribution and meeting the performance standard in evidence-based reading and writing and mathematics, as per policy as described above, may select one of the following options:

- A. Return in September as a fifth year student.
- B. Enroll in summer school to obtain course credit for courses failed.
- C. Enroll in courses to be designated through the Bristol Adult Education Program and receive the Bristol Adult High School Diploma.

Legal References: Connecticut General Statutes

[10-221a](#) High school graduation requirements (As amended by P.A. 00-124, An Act Concerning High School Diplomas and Veterans of World War II, P.A. 00-156, An Act Requiring A Civics Course for High School Graduation and P.A. 08-138, An Act Concerning High School Credit for Private World Language Courses Other Subject Areas)

[10-223a](#) Promotion and graduation policies

[10-17F\(d\)](#) Requirement of bilingual education program

Public Act No. 01-205 An Act Concerning Mastery Test Exemptions

2002 Title III No Child Left Behind

State of Connecticut, Department of Education, Circular Letter: Series 2008-2009, C-10

Policy Adopted: April 5, 1995

Policy Revised: April 1, 1998

Policy Revised: May 1, 2002

Policy Revised: June 2, 2004

Policy Revised: April 5, 2006

Policy Revised: December 5, 2007

Policy Revised: August 20, 2008

Policy Revised: August 17, 2011

Policy Revised: February 13, 2013

Policy Revised: July 6, 2016

Regulation**Instruction****Graduation Requirement Regulations**

I. Proficiency for Awarding of Credit for World Language Courses Offered Privately Through a Non-Profit Provider as Prescribed by the Commissioner of Education

A. Students must complete a world language course offered privately through a non-profit provider and pass the prescribed examination. The cost of this course will not be borne by the district.

B. Students requesting such credit shall take the American Council on the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview (OPI) together with the ACTFL Written Proficiency Test (WPT), administered by LTI, the ACTFL Testing Office.

C. In order to earn credits under this program, students must take the OPI and WPT in the same language. The chart below lists the maximum credit to be awarded for each language category and test level. This recommendation is based on the ACTFL's categorization of the difficulty of the language and the official OPI and WPT rating that is achieved. The cost for these tests will not be borne by the district.

Granting High School Credit for Private World Language Courses in Connecticut

Developed in Collaboration with the American Council on the Teaching of Foreign Languages (ACTFL)

Official ACTFL OPI/WPT Rating	Category I, e.g., Dutch, French, Italian, Spanish, Portuguese, Swahilli	Category II, e.g., German, Hindi, Modern Greek, Urdu	Category III, e.g., Cambodian, Czech, Hebrew, Polish, Russian, Vietnamese	Category IV, E.g., Arabic, Cantonese, Japanese, Korean, Mandarin
Novice High	1	1	2	2
Intermediate Low	2	2	3	3

Intermediate Mid	4	4	4* (6)	4* (6)
Intermediate High	4* (6)	4* (6)	4* (8)	4* (8)

In order to earn credits, students must take both the OPI and the WPT in the same language. If the ratings differ, the credits will be awarded based on the lower of the two ratings. Students can take the tests in grades 9-12.

*Four credit maximum allowed under state law even though ACTFL credit equivalency, in parentheses, suggests awarding more credit for higher proficiencies in more difficult languages.

II. Administration of Alternative Assessment for Seniors Who Have Not Met the Performance Standard for Graduation in Evidence-based Reading and Writing and/or Mathematics

- A. Schools must administer at least one alternative assessment in Evidence-Based Reading and Writing and Mathematics distributed by the Office of Teaching and Learning per quarter in students' senior year.
- B. The assessment can be administered and evaluated by administration, supervisors, or certified teachers.

III. Appeals

- A. Any student may appeal the status of his/her performance standard in writing within 20 days of receiving the score to the Superintendent if they believe the process described in the policy and regulations were not followed. The Superintendent will review the case to assure that all regulations were followed. If the Superintendent finds the regulations were not followed, the Superintendent will order a special assessment.

Regulation Approved: May 1, 2002

Regulation Revised: June 2, 2004

Regulation Revised: April 5, 2006

Regulation Revised August 20, 2008

Regulation Revised August 17, 2011

**Policy
6153**

Instruction

Field Trips

The Board of Education recognizes the valuable experiences derived from field trips for students when such trips are properly planned, executed and evaluated. To the extent that budgetary resources permit, the Board encourages field trips in connection with the work of an organized class or school activity. Field trips should be directly related to, or an extension of, the classroom learning experiences. Field trips may be used as springboards or culminating activities for units presented in the classroom or to provide “hands on” experience for students involved in the study of specific topics. In addition, field trips may introduce students to new learning experiences through the participation in, or observation of, activities such as exhibits, dramatic presentations and other timely and appropriate events.

All student field trips that involve the public solicitation of funds shall require Board approval before any fundraising by students or others on their behalf. Any such fundraising activities must comply with the provisions of Board Policy #1324 regarding fundraising activities.

All student field trips require prior written approval by the Board, Superintendent, and/or Principal, in accordance with the accompanying regulations and procedures. There will be no field trips taken without prior approval. School district employees who organize trips independently of the Bristol Public Schools without receiving approval in accordance with this policy and regulations must notify the Superintendent in writing in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants and parents/guardians are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip.

Given the paramount importance of student safety, the Board, acting through the Superintendent, reserves the right to cancel field trips for safety reasons at any time.

The Board authorizes the Superintendent, and/or his or her designee, to promulgate administrative regulations and procedures in furtherance of this policy.

Policy adopted:	April 5, 1995	BRISTOL PUBLIC SCHOOLS
Policy Revised:	January 17, 2008	Bristol, Connecticut
Policy Revised:	October 6, 2010	
Policy Revised:	October 5, 2011	

Regulation Instruction Field Trips

Definition:

A field trip is a trip off school grounds approved in accordance with these procedures taken in connection with the work of an organized class, school group, or school activity. School district employees who organize such trips are acting within the scope of their employment and are generally protected by statute against personal liability. Employees who organize trips independently of the Bristol Public Schools must notify the Superintendent in writing at least sixty (60) days in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants and parents/guardians are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip.

Homeland Security Procedures Affecting Field Trips:

Due to the uncertain nature of world security and other unforeseeable events, field trip participants must understand that the Board of Education reserves the right to cancel field trips at any time prior to the time of departure of the trip. The Bristol Board of Education or its agents will not be responsible for any financial losses or penalties incurred as a result of the cancellation of any field trip. Accordingly, students and their families must obtain adequate trip insurance to guard against any financial losses should a trip be cancelled.

The National Homeland Security alert system will be used to inform the Superintendent about any possible safety issues to be considered prior to approving any field trip and/or when reconsidering approval of a previously scheduled trip. If there is sufficient reason to believe that staff and students' safety may be compromised, scheduled field trips may be cancelled at the sole discretion of the Superintendent. The decision of the Superintendent is final.

Cancellation of Field Trips.

The Board of Education and/or the Superintendent of Schools reserves the right to cancel any trip, at any time, for any reason and the Board of Education is not responsible for any lost fees/costs to students/parents. Parents are encouraged to purchase trip insurance for any overnight/out-of-state field trip.

Types of Field Trips:

Curriculum-Based Field Trips – A curriculum-based field trip is any field trip that is a structured component of a curriculum or course and in which each student is expected to participate. There shall be no charge to students to participate in a curriculum-based field trip beyond a student's incidental expenses. These types of trips shall take place when school is in session. If parents do not allow their child to participate in a curriculum-

based field trip, an alternate, relevant educational experience shall be provided to the student.

Enrichment Field Trips – An enrichment field trip is any field trip that extends learning beyond the requirements of what is called for in a curriculum or course. Costs associated with enrichment field trips are not accounted for in the district or school budget. Such costs may be paid through a combination of donations, fundraising activities and/or payments by students and/or parents. Every effort shall be made to insure that every student is able to participate in the field trip. Participation is optional and may be limited at the discretion of the sponsoring organization or principal. Any fundraising for such trips must be done in accordance with Board policies regarding fundraising. (See Board Policy #1324 Fundraising Activities). Enrichment field trips typically do not take place when school is in session. If an enrichment field trip does take place while school is in session, an alternate, relevant educational experience shall be provided to any student not going on the trip.

Athletic Field Trips -- Athletic trips covered under this policy are any school team trips that include travel out of state and/or are overnight events. These will require Superintendent approval.

This policy does not apply to regular interscholastic athletic games/competitions, as that schedule is developed by the Athletic Director in conjunction with the administration. Any trips by athletic teams beyond the regular interscholastic schedule must be approved in accordance with this policy.

Recreational Field Trips – Trips for recreational purposes may be offered by recognized school-sponsored groups and, like other field trips, are subject to approval as set forth in the approval procedures below. Participation may be limited at the discretion of the sponsoring school organization or principal. Costs of recreational trips will be the responsibility of the sponsoring organization and the participating students. Any fundraising for such trips must be done in accordance with Board policy regarding fundraising. Staff will make every effort to insure that all students are able to participate in the field trip. (See Board Policy #1324, Fundraising). Recreational field trips typically do not take place when school is in session. For Ski Club participants, Exhibit F, the Bristol Public Schools Ski Club Permission Form and the Ski Club Waiver, must be completed prior to student participation in the Ski Club.

Non-school trips -- School district employees who organize trips independently of the Bristol Public Schools must notify the Superintendent in writing at least sixty (60) days in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip. Teachers/Sponsors seeking an exception to any of the rules or regulations governing school field trips must also obtain the written approval of the Superintendent of Schools prior to the trip.

Field trips are categorized into three groups for the purpose of planning: day trips, overnight/out-of-state trips and foreign trips. Regulations shall include the process for field trip approval, supervision requirements, transportation, and financial arrangements.

GENERAL FIELD TRIP REQUIREMENTS

Approval:

All Field Trips

1. All field trips approved in accordance with these regulations are considered school-sponsored activities, and the participating employees/volunteers are generally protected by statute against liability.
2. All field trips are to be planned with, and approved by, the principal. Pre-teaching, planning, and evaluation should always be a part of any given field trip.
3. All field trips must be supported by the appropriate application as described below, and all field trips must be approved in writing by the building principal.
4. Teachers/Sponsors must submit a Field Trip Request Form at least 4 weeks prior to the proposed trip. All information requested must be included on this form for approval [EXHIBIT B.1].
5. Teachers/Sponsors must submit a School Health Field Trip Form with the Field Trip Request Form at least 4 weeks prior to the proposed trip. [EXHIBIT B2].
6. Activities of non-school groups or that are not approved in accordance with these procedures are not to be considered school field trips and do not fall under the purview of the Board. The Board is not responsible for any field trip which is not school-sponsored and has not been approved in accordance with school policy and procedures.
7. In deciding whether or not to grant approval for any field trip, the decision-maker shall consider the adequacy of any applicable insurance coverage for the proposed trip activities.
8. Any trips involving swimming must receive special approval from the Superintendent.

Additional requirements for field trips requiring an overnight stay or out-of-state travel

1. All recreational trips and trips involving an overnight stay or out-of-state travel (including athletic field trips) must also be approved in writing by the Superintendent or his/her designee.
2. Teachers/Sponsors must submit a Field Trip Request Form at least 12 weeks prior to the proposed trip to the principal and Superintendent. All information requested must be included on this form for approval [EXHIBIT B1].
3. Teachers/Sponsors must submit a School Health Field Trip Form with the Field Trip Request Form at least 12 weeks prior to the proposed trip. [EXHIBIT B2].

Additional requirements for field trips involving travel outside of the continental U.S.

1. Field trips abroad/outside the continental U.S. must be an extension of the curriculum, whenever possible.
2. Student-teacher trips outside the boundaries of the continental United States are to be held at a time when classes are not in session. The only exception the Board will consider will be exchange programs where students attend school.

3. All trips involving travel outside the continental United States must also be recommended by the Superintendent, and must be approved through vote by the Board of Education.
4. All field trips outside of the Continental United States must be approved by the Board of Education. Anyone seeking approval for such a trip must submit a completed “Field Trip Form for Travel Outside the Continental United States” to the Board six months prior to the proposed trip. [EXHIBIT A]. This form must be completed in its entirety at the time the Board reviews the proposal.
5. Teachers/Sponsors must submit a Field Trip Request Form at least 12 weeks prior to the proposed trip to the principal and Superintendent. All information requested must be included on this form for approval [EXHIBIT B1].
6. Teachers/Sponsors must submit a School Health Field Trip Form with the Field Trip Request Form at least 12 weeks prior to the proposed trip. [EXHIBIT B2].
7. Such trips must be organized and conducted with a professional travel agency/organization which provides travel, housing and itinerary planning. The teacher planning the trip shall provide the full travel brochure from the organizing agency.
8. Activities involving unnecessary risk (i.e. skiing, driving, motorcycling, etc.) must be excluded from any trip itinerary. In addition, any activity not covered by either the agency, or the city insurance carrier, should also be excluded. Organizers of any trip should ensure that the trip activities are compatible with existing liability policies. Insurance coverage must be documented within the application for field trip approval.
9. The travel agency/organization arranging the trip must provide evidence of appropriate liability/trip insurance with a coverage amount acceptable to the Board.
10. Be sure that the organizing agency has procedures and policies in place to deal with emergency medical situations.
11. Approval of any trip outside the continental United States must take into consideration appropriate security factors (see Homeland Security Procedures, above). Parents and students should be reminded that such trips are subject to cancellation at the discretion of the Superintendent based on such security issues, including homeland security alerts and that they must purchase trip cancellation insurance.

Commented [t1]: How would field trip advisors know this response? Check with the Business Office.

Student Participation:

All Field Trips

1. All student participants must be officially enrolled in the school.
2. All students participating in any field trip must complete the district permission form [EXHIBIT C]. No other permission form may be substituted.
3. Signed permission slips must be in the hands of the faculty sponsor, by the required date, before permitting students to participate in a field trip.
4. Access to field trips shall be provided to all students to the extent practicable, and reasonable accommodations shall be made to permit participation by children with disabilities.

5. Rules of Conduct:

- a. Students, staff and chaperones must continue to abide by all school rules and regulations during all school-sponsored field trips. Failure to do so may result in disciplinary action.
 - b. Rules on field trips are the same as required of students within the school confines. Students should be reminded that violation of school rules may result in disciplinary action, up to and including expulsion.
 - c. Parents and students should sign expected behavior rules agreeing to abide by the agreement which should include provisions that a student whose behavior is unacceptable may be sent home early with a chaperone at the parent's expense.
6. School absences which may result due to a scheduled and approved field trip shall be considered excused absences for both students and chaperones, provided the trip has received Board approval.

Additional requirements for field trips requiring an overnight stay or out-of-state travel

1. The administration reserves the right to deny the participation for any student on any overnight field trip based upon a record of inappropriate behavior and/or poor attendance pattern.

Additional requirements for field trips involving travel outside of the continental U.S.

1. Participation by students is optional and selection of student participants will be left to the discretion of the teacher/sponsor and considering all participation guidelines.
2. Students may only participate in language-based international trips if they meet academic eligibility guidelines [see Policy 6145.2] and have at least an 80 average in that language course.
3. Students participating in a field trip abroad should be enrolled in the corresponding world language course. That is, trips to Italy would have as participants students enrolled in Italian I, II, III or IV. [Students with language proficiency may be considered for these trips without current enrollment in that language class on a space available basis].
4. Participants should have sufficient grasp of the language as to gain from this experience.

Field Trip Cost:

Students may be assessed for the cost of field trips which includes transportation, lodging, meals, and entry fees. Fund raising activities (following District policies) may be used to defray the cost of a field trip. When the cost is considerable, a discreet arrangement may be made with the administrator for the possible assistance in payment for those individuals experiencing a hardship. Parents/guardians of students who qualify for free and reduced lunch should contact the administrator to discuss possible fee assistance.

Commented [t2]: Should the cost of any nursing be built into the overall cost of the trip and distributed among the students?

Responsibilities of Field Trip Faculty-Coordinator:

All Field Trips

1. Prior to the trip, the responsible teacher shall:

- a. Prepare parental permission slips, with all blanks filled in, and give to students. No student may go on a school trip unless the teacher has a signed permission slip.
 - b. Prepare a list of students and chaperones going on the trip and distribute to all teachers involved.
 - c. Remind students who may miss classwork or a test that they are responsible for making arrangements with the teacher to complete the classwork or test. (See Board Policy #5113).
 - d. Make alternative educational plans for any students who are not going on the trip.
 - e. Teachers planning field trips must notify the cafeteria manager when classes will not be eating lunch in the cafeteria. This must be done at least a week before the scheduled trip.
 - f. If it is determined that nursing support is needed on the field trip, the field trip coordinator must contact the Director of Special Services to make the request at least three weeks prior to the date of the field trip.
2. Upon completion of the trip, the leader will file a written report with the building principal including all unusual incidents. The principal will notify the Superintendent of any unusual incidents.

Additional requirements for field trips involving travel outside of the continental U.S.

1. Parent meeting: Discuss pertinent information regarding the proposed trip with parents. Keep records of dates of meetings, number in attendance, and handouts/information given.
2. Plan the Itinerary:
 - a. Itinerary details must be available one (1) month prior to departure and provided to the student, their parent/guardian and the principal.
 - b. Include departure date and place, major events and activities, travel arrangements, planned stops and time and place for return.
 - c. Provide for adequate supervision of all students for the duration of the trip.
 - d. Prepare a detailed daily student itinerary.
 - e. Do not plan on high-risk activities such as para-sailing, surfing and water skiing.
3. Plan Housing:
 - a. Housing arrangements should be finalized at least one (1) month prior to departure.
 - b. Housing of students in private homes will be approved ONLY if organized and sponsored by a host organization such as a school or other accredited organization.
 - c. Prepare rooming assignments for students and chaperones.
 - d. Communicate housing information, including name, address and telephone numbers of the proposed housing units to both parents and students.

Responsibilities of Chaperones:

All Field Trips

1. It is necessary to have an adequate number of adult (at least 21 years of age) chaperones (including the responsible teacher) on all field trips. Factors to be considered in determining the specific number of adult chaperones for a given field trip include the age of the children, the location of the field trip and the nature of the field trip. The following are minimum student to chaperone ratios:

<u>Grade Level</u>	<u>Student to Chaperone ratio</u>
PreK – K	4:1
1-5	7:1
6-8	10:1
9-12	15:1 (overnight 10:1)

No field trip shall be taken with fewer than two (2) chaperones. If the group has both male and female students attending there must be at least one male and one female chaperone.

2. The school district reserves the right to accept/reject potential chaperone who may serve as a trip chaperones for any given school field trip.
3. Board of Education employees whose assignment is unrelated to the field trip may only attend field trips as chaperones during school vacation periods.
4. Each adult chaperone shall be given direction by the teacher responsible for the trip regarding his/her responsibilities. Each chaperone is expected to cooperate completely with the teacher responsible for the trip.
5. No adult shall participate in a field trip unless that person is an official chaperone (except guardians and/or family members on a space availability basis).
6. Prior to each field trip the teacher or sponsor responsible for the trip will insure that all chaperones have read and signed the “Rules for Field Trip Chaperones” form and that this form is on file with the principal [EXHIBIT D] at least 4 weeks prior to departure along with EXHIBIT B2.
7. Field trip participants must be chaperoned during scheduled time as well as “free” time.
8. Children of chaperones may only attend if they are enrolled in the class taking the field trip.
9. School absences which may result due to a scheduled and approved field trip shall be considered excused absences for both students and chaperones, provided the trip has received Board approval.

Additional requirements for field trips involving travel outside of the continental U.S.

1. Adequate supervision and safety precautions shall be observed in accordance with the type of students, activities and nature of the trip involved. The chaperone/student ratio shall be in line with the recommendation of the

agency/outside organization planning the trip and should be consistent with the recommendations.

2. Chaperone compensation, if any, beyond the cost of their trip expenses (flight/hotel) shall be used to defray student expenses.

Field Trip Transportation

Buses:

1. The following directions are to be given to all bus drivers on Bristol School District field trips:
 - a. "Drivers will not depart from any educational, athletic or other school trip location without first confirming with the teacher in charge that all students have been accounted for and a roll has been taken." Trips requiring the use of multiple buses will leave and depart for Bristol and travel and park together. A lead bus will be determined by drivers before departure.

Additional requirements for field trips involving travel outside of the continental U.S.

1. General Transportation
 - a. If transportation is to be provided by a tour promoter or a travel agency, the school shall make a thorough investigation of the vendor's reliability and shall include in the Approval Packet documented evidence of the following:
 - i. The firm's membership in trade associations, such as the Air Traffic Conference of America, International Air Transportation Association, or the American Society of Travel Agents;
 - ii. Contingent liability insurance coverage by the firm to ensure students of refunds if the promoter defaults;
2. Transportation/Land:
 - a. Never allow students to drive motorized vehicles during a trip OR ride with a non-authorized individual.
 - b. Check with the organizing agency that all land transportation in the foreign country (to and from airport and all itinerary stops) is included in the price.
 - c. Transportation to and from departing U.S. airport, other than Bradley International, must be by charter coach.
2. Transportation/Air:
 - a. Confirm that the outside organization making the travel plans provides adequate basic coverage for trip cancellation. Complete cancellation coverage (in case of illness or death) should be available for students to purchase.
 - b. Confirm flight status and seat availability 24 hours prior to departure.

Health/Safety/Medical Procedures

All Field Trips

- a. Emergency medical forms must be completed by parent before any student will be permitted to go on any such trip. Emergency medical information must be with the chaperones at all times.
- b. Discuss safety, including potential risks, and emergency procedures with students, parents and chaperones.
- c. In case of illness or accident, ensure enough adults are present so that one adult can remain with the students at all times.
- d. Teachers/Sponsors must submit a School Health Field Trip Form with the Field Trip Request Form at least 4 weeks prior to the proposed trip as part of the approval process. [EXHIBIT B2].

Additional requirements for field trips involving travel outside of the continental U.S.

- a. Chaperones must be familiar with laws specific to the foreign country regarding prescription medications.
- b. Student/parent shall provide evidence of sufficient medical or accident insurance that will cover any possible injuries occurring outside the continental U.S. or while participating in a field trip abroad.

Emergency Procedures for Field Trips

All Field Trips

In the event of a national or local emergency, the Superintendent of Schools (or designee) will consult with the responsible teacher/trip sponsor to plan for the safe return of students and staff. Participants may be instructed to return to Bristol as soon as is safely possible.

The following instructions are for the teacher/sponsor to follow in case of an emergency when on a field trip:

1. Comprehensive and careful planning for a field trip will help ensure the overall safety of students. The teacher/sponsor conducting the field trip should investigate as much as possible about the site of the field trip prior to the actual trip. Items to be investigated include, but are not limited to, accessibility for physically disabled students, emergency contact individuals and their telephone numbers at the site, emergency medical assistance that is available at the site, special facilities that are available for eating, and toilet facilities.

Additionally, the teacher/sponsor should secure Field Trip Permission Forms for all students, which should be taken on the trip. The Field Trip Permission Form shall clearly indicate the parent's decision regarding their child's participation or non-participation in the field trip, the child's name and the parent's signature. The teacher/sponsor should also have readily available a roster of the students on the trip with their corresponding emergency telephone contact numbers as well as knowledge of any special medical and/or health concerns.

2. In case of an emergency while on a field trip (e.g., lost student(s), physical injury, medical alert, etc.), the teacher or appropriate supervising staff should adhere to the following:
 - a. Directly attend to the immediate emergency situation.
 - b. Contact the building principal (or designee) if the emergency occurs during the school day. If the emergency occurs during non-school hours, contact the designated person.
 - c. The person making the telephone call will provide the principal (or designee) with the telephone number and location where they can be reached and a summary of the emergency situation and steps that have already been taken to address the emergency.
 - d. The principal (or designee) will contact the student's parents to advise them of the emergency situation.
 - e. If appropriate, the Emergency Management Team at the school will convene and activate the School Emergency Management Plan.
3. Parental permission must be obtained for any student on an approved field trip for the District before any medical attention is given to those students while on that field trip, unless there is an emergency and the parent/guardian cannot be contacted. Therefore, if a student on a field trip needs medical attention for the health and welfare of that child, the parents/guardians will be telephoned before any medical attention is given to that child. If the emergency is life-threatening, the hospital, doctors and/or emergency technicians will make the determination of what needs to be done for that child.

If there are no doctors, emergency technicians, or police available to give emergency first aid, any teacher or other school personnel may take the action necessary to render emergency first aid. Teachers or other school personnel are immune from liability for emergency medical assistance, first aid or medication by injection if they have "...completed a course in first aid offered by the American Red Cross, the American Heart Association, the Department of Health Services, or any Director of Health, as certified by the agency or Director of Health offering the course,..." (Section 52.557b, Chapter 925 of the Connecticut General Statutes – "Good Samaritan Law").

Regulation Approved: April 5, 1995
SCHOOLS

Regulation Revised: March 6, 2002
Connecticut

Regulation Revised: July 2, 2003

Regulation Revised: December 5, 2007

Regulation Revised: January 17, 2008

Regulation Revised: October 6, 2010

Regulation Revised: April 6, 2016

BRISTOL PUBLIC

Bristol,



Bristol Public Schools
Field Trip Request Form for Travel
Outside the Continental United States
Page 1 of 2

All field trips outside of the Continental United States must be approved by the Board of Education. The following information must be presented to the BOE no less than 6 months prior to the date of the proposed trip. The Superintendent and building principal will be provided with a final list of student participants, hotels and flight arrangements one month prior to departure.

Name of School:		
Date of Request:		
Trip Destination		
Proposed Dates:		
Number of Students participating (approximately)		
Grade level of students:		
Name of teacher(s) making request		
Number and names of chaperones:		
1.		2.
3.		4.
5.		6.
7.		8.

If more teachers or chaperones are required, please attach list on a separate piece of paper.

Transportation:	<input type="radio"/> Bus <input type="radio"/> Train <input type="radio"/> Plane <input type="radio"/> Car <input type="radio"/> Other
------------------------	---

Estimated Total Budget	
Estimated Cost to student	
Are fund-raising activities planned? <input type="radio"/> Yes (please describe) <input type="radio"/> No	Description of fund-raising activities

Name of Travel Agency

--

Lodging

<ul style="list-style-type: none"><input type="radio"/> Hotel/Motel<input type="radio"/> Private Homes<input type="radio"/> Other

Insurance Arrangements for Staff and Students: (Please describe and attach a copy of the insurance coverage arranged for this trip). Please list any excursion that may be part of the exchange/trip that will be taken outside of the itinerary created by the travel agency.

Proposed Itinerary: Please write a brief narrative explaining the purpose and educational value of the proposed trip.

***Attach a copy of the full brochure from the travel agency.**



6153
EXHIBIT B1

Bristol Public Schools
Field Trip Request Form
(Use for all Field Trips)
Page 1 of 2

Name of School		
Date of Request		
Type of Trip (Check one)	<input type="radio"/> Curriculum-based <input type="radio"/> Enrichment <input type="radio"/> Recreational <input type="radio"/> Athletic <input type="radio"/> Other	
Trip Destination		
Proposed Dates:		
Number of Students participating (approximately)		
Grade level of students:		
Name of teacher(s) making request		
Number and names of chaperones:		
1.	2.	
3.	4.	
5.	6.	
7.	8.	
<i>If more teachers or chaperones are required, please attach list on a separate piece of paper.</i>		
Transportation:	<input type="radio"/> Bus <input type="radio"/> Train <input type="radio"/> Plane <input type="radio"/> Car <input type="radio"/> Other	
Estimated Total Budget		
Estimated Cost to student		
Are fund-raising activities planned?	Description of fund-raising activities	
<input type="radio"/> Yes (please describe) <input type="radio"/> No		
Please describe if/how lunch or snacks will be provided to students on the trip so that the school is aware of potential dietary needs.		
Reviewed Field trip plan and proposed student list with the school nurse on _____ (See signed School Health Field Trip Approval Form)		

Plan and Educational Rationale: (Attach a detailed plan for the proposed trip with a separate statement that describes the importance of the trip to the students' classroom education and the district's specific curricular focus for those children.)

I have read the DISTRICT GUIDELINES FOR PLANNING PUPIL FIELD TRIPS, and I hereby request approval to plan a school-sponsored trip.

Name of Requester

Date

FOR OVERNIGHT and/or OUT OF STATE TRIPS ONLY:

What comparable educational experience is available in the Bristol area?

Proposed dates

Proposed lodging information

FOR TRIPS OUTSIDE OF THE CONTINENTAL U.S. ONLY:

Please attach the approval of Exhibit A- Field Trip Request Form for Travel Outside the Continental United States

APPROVALS

	Approval Needed	Timeline	From	Signature	Date
	Day Field Trip	4 weeks before	Principal only		
	APPROVAL FOR PLANNING OF: Overnight OR Out of state OR Out of country trip	12 weeks before	Principal		
			Superintendent		
	FINAL APPROVAL FOR Overnight OR Out of state OR Out of country trip	4 weeks before	Principal		
			Superintendent		



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EXHIBIT B2**

School Health Field Trip Approval Form
Page 1 of 2

School nurses will review this list with the field trip coordinator. When medication training and other student medical issues have been resolved, the nurse will initial the checklist, which will then be submitted for the principal's approval. This is a mandatory form in order to receive approval for the trip.

Trip Destination: _____

Field Trip Coordinator: _____ Date of Field Trip: _____

School Nurse: _____

- ___ 1) Medication training completed by the employee designated to administer and maintain medications (including inhalers, Epi-pens, etc.)
- ___ 2) Necessary arrangements/training for students with special medical conditions (e.g., diabetes, asthma, seizure disorders, cardiac condition, etc.)
- ___ 3) Arrangements have been made for special equipment needed (e.g., all-terrain wheelchair for the beach)
- ___ 4) Arrangements have been made for access to emergency medical services.
- ___ 5) Lunch/snack arrangements have been made in consideration of students with food allergies.
- ___ 6) School nurse recommendations on additional supplies needed (e.g., first-aid kit, water, etc.)
- ___ 7) Nursing care plans provided to field trip coordinator as needed.
- ___ 8) For out-of-state or out-of-country trips, consultation and necessary permission have been obtained regarding nursing practice and delegation in the respective location.
- ___ 9) Arrangements have been made for communication (e.g., access to cell phones, walkie-talkies for staff during activity, etc.)
- ___ 10) Other medical or safety issues addressed

School Health Field Trip Approval
Page 2 of 2

This portion of the form must be completed for any off-grounds excursions during the school day.

Date of Trip: _____ Date of Request: _____

Teacher(s): _____

Destination: _____

Departure time: _____ Return time: _____

Type of transportation: _____

Staff participating: _____

Students participating: Attach list

Number of students: _____ Number of chaperones: _____

Plan for telephone access: _____

Reviewed by _____ Date: _____
Nurse

Reminder: Student information sheets, medication, and first-aid kits should be brought on all field trips.



Bristol Public Schools
Field Trip Permission Form

A parent signature is required on this form for all field trips.

I have read the attached description of the field trip to be held on

_____ to _____ and
(date) (place(s))

hereby consent to the participation of my child, _____
in this field trip.

I authorize school officials to send my child home, at my expense, from any field trip should his/her behavior warrant such action.

I also consent to any emergency medical treatment that my child may require during the course of this trip. Specifically, I give permission for any EMT or emergency room personnel providing medical treatment to my child to release any protected health information regarding my child to accompanying school staff in accordance with the provisions of the Health Insurance Portability and Accountability Act ("HIPPA"). In signing this authorization, I understand that I am allowing school personnel to be present in my absence during any emergency interventions involving my child and consent to the on-site exchange of medical information necessary for immediate medical treatment. Any protected health information released to school staff during an emergency shall be treated as confidential student information protected from further disclosure in accordance with the provisions of Connecticut law and the Family Educational Rights and Privacy Act ("FERPA").

I understand that, because travel plans must be determined well in advance of departure, any prepayments toward this trip may be *nonrefundable*.

I understand further that Homeland Security issues may force the cancellation of this trip and forfeiture of my payment. By signing below, I understand and accept that circumstance may arise between now and departure which could cause the trip to be cancelled, which may result in financial loss. I further understand that the Bristol Board of Education will not be liable for any financial losses I may incur should this trip be cancelled due to security or other unforeseen reasons.

I understand that I need to inform the school nurse of the medical condition/allergies my child has that requires any care needs on the field trip.
I understand that I must contact the school nurse to make arrangements if my child requires medication during the field trip.

_____ Date _____ Signature of Parent/Guardian

Parent Name: _____
Phone #'s to be reached during field trip-
Home: _____ Work: _____ Cell: _____
Physician: _____ Hospital of Choice: _____

I give my permission to the teacher-in-charge of the trip to seek emergency medical attention for _____ and I ask that I be notified as soon as possible. *(Student's Name)*

I accept the responsibility for any expense incurred for that medical treatment.

Insurance Company

Insurance ID Number

6153
EXHIBIT D

Bristol Public Schools
Rules for Field Trip Chaperones

The Bristol Public Schools appreciate your agreement to serve as a field trip chaperone. For your protection and that of the school district, we want to assure that your responsibilities are clear, as follows:

1. Chaperones will be asked to present identification prior to taking the trip. All chaperones must be 21 years of age or older.
2. Chaperones serve at the direction of the teacher/sponsor and/or administrators present. Please take your lead from them.
3. Chaperones are not responsible and have no authority for disciplining of students. While it is permissible to redirect a student's attention verbally, any behavior problems should be referred to the teachers and/or administrators present.
4. Chaperones do not have the authority to dispense medication, even non-prescription medication. If there is any request concerning medication, even aspirin or Tylenol, please refer it to the teachers and/or administrators present.
5. If you are asked to stay with a particular student or group of students, it is important that you do so. If it is necessary to leave your group, please get the attention of and notify a teacher or administrator before doing so, so that alternative arrangements for supervising the students can be made.
6. Chaperones are not permitted to bring other children to events, including their own children.
7. Persons other than staff members serving as chaperones on overnight field trips may be asked to submit a background security check.
8. Chaperones are bound by and must follow all rules of the Bristol Public Schools, including but not limited to the strict prohibition against use of alcohol at any time while on a school trip.
9. Chaperones are asked to refrain from smoking in the presence of students.
10. If there are any special rules or requirements, the teachers and/or administrators supervising the trip will inform you.

I acknowledge receipt and that I have read these rules for chaperones and agree to abide by these and all other school rules and regulations.

Chaperone Name

Date

SAMPLE – Please adapt for your trip

Letter to Parents/Guardians

Re: Trip to [insert destination]

Dear Parents and Guardians:

As you know, your son or daughter is a member of the _____ Club. This year, the _____ Club has proposed a trip to _____ in [date].

Not surprisingly, school districts around the country are continually reconsidering the approval of field trips, based on the possibility of terrorist attacks and other concerns related to the safety of students. Trips involving travel to foreign countries are of particular concern. While the decision to participate or not participate in an approved trip will in each case be made by individual students and their parents, we will be reviewing any and all proposed trips on a continuing basis to determine whether certain trips should be canceled altogether.

At this point in time, the Board of Education has approved the proposed trip to [DESTINATION] in [DATE]. However, the Board reserves the right to reconsider that approval at anytime between now and the time of departure of the trip, based on the circumstances existing at the time. In addition, in the event that the Board decides at any point to rescind its approval of this trip, thereby canceling the trip, the Board will not be responsible for any financial losses or penalties incurred by the affected students or their parents or guardians.

We are confident that parents and students will understand our need to reassess on a continuing basis whether particular trips should go forward, based on the circumstances existing at the time. While we wish that we could provide students and parents with a definite statement about whether a trip will or will not go forward, that is simply not possible in these difficult, unpredictable times.

We appreciate your understanding in these matters, and we invite you to contact us if you have any questions.

Sincerely,

Bristol Public Schools Ski Club Permission Form

I, _____, hereby give my permission for my son/daughter,
_____,
(name of parent/guardian)
(name)

a student in the Bristol Public Schools, to participate in the Ski Club outings during the 2010-2011 school year.

In giving this permission I have indicated my agreement to the following by circling my response:

I understand that Bristol will be providing transportation to and from the following location:

_____.
Bristol shall have no responsibility to wait for my child if my child is not present when the transportation is leaving to go to or return from this outing.

Agreed

I understand that the adult advisors to the Ski Club will ride the transportation with the students and be available on site at the outing. However, these advisors will have no responsibility for providing instruction, ensuring that my child has the correct equipment, that the equipment is in proper and safe working order, or that my child uses the equipment properly and in a safe manner. The advisors also shall have no responsibility for monitoring what trails or areas my child uses at the outing.

Agreed

Do you understand the nature of the trip and the risks inherent in skiing and snowboarding activities available to your student during the outing?

Yes No

Will your child require any special care or accommodations in connection with this trip? Include a complete description of your child's allergies, medication requirements and any medical, physical or other conditions related to care/supervision of your child.

Yes No

If yes, please explain: _____

We will contact you immediately in the event of the need for emergency medical treatment for your child. However, in the event of an urgent need to authorize emergency medical care, do you grant permission for medical treatment to be given and/or for the supervising staff (including volunteers) to take your child to the physician, dentist or hospital if an accident or serious illness occurs on the trip and you and the emergency contacts cannot be located in a timely fashion. You also understand and agree that you and not Bristol will have the responsibility for paying the costs of any such treatment.

Yes No

Do you understand and agree that because this trip is considered a school sponsored activity all Board of Education policies concerning student behavior will be in effect? Student misconduct will be addressed in accordance with Board of Education policy.

Yes No

Who may we contact during the Ski Club outings if we need to notify you of a problem, change of plans or emergency? Please provide as many names and numbers as possible.

I agree that _____ may participate in the Ski Club outings described above and that the information provided above is accurate and complete.
name of student

Parent/Guardian Printed Name

Parent/Guardian Signature

Date

Ski Club Waiver

I, the undersigned parent or guardian of _____, hereby acknowledge that I have been properly advised, cautioned, and warned by the proper administrative personnel at the Bristol Public Schools that by participating in the Ski Club Outings, a student is exposing her/himself in the risk of serious injury, including but not limited to the risk of sprains, fractures, and ligament and/or cartilage damage which could result in a temporary or permanent, partial, or complete impairment in the use of limbs; brain damage, paralysis, or even death. Having been so cautioned and warned, it is still _____'s desire to participate in the activity listed above. It is hereby further acknowledge that _____ does so with full knowledge and understanding of the risk of serious injury to which _____ is exposing himself/herself by participating in the aforementioned activity. [insert child's name in each space]

The Bristol Board of Education, the Town of Bristol and their agents, employees, or members shall bear no responsibility for any accident or injury (including death) sustained by the Student while participating in the aforementioned trip to (location(s) and all related travel and activities, including skiing and/or snowboarding to the extent permitted by law. To this end, I (for myself and the Student) hereby release and forever discharge the Board of Education, the Town of Bristol, and any of their members, employees or agents (including volunteers and chaperones) from any and all claims, demands, rights or cause of action of whatsoever kind or nature arising from, or by reason of, any and all known or unknown foreseen or unforeseen, bodily or personal injuries (including death), or damage to property and the consequences thereof which hereafter may be sustained by the Student or any parent or guardian or their heirs, executors or assigns, arising out of or in connection with the Student's participation in the Ski Club outings and all related travel and activities. Furthermore, the Parent hereby expressly stipulates and agrees to indemnify and forever hold harmless the Bristol Board of Education, the Town of Bristol, and any of its members, employees or agents (including volunteers and chaperones) against any and all loss from any and all claims, demands, or action in law or in equity that may hereafter be made or brought by any person or by the Student or by anyone acting on his behalf for the purpose of enforcing a claim for damages on account of any injury (including death) any damage arising out of or in connection with the Student's participation in the trip and all related travel and activities, and the costs of medical services.

I _____ represent and warrant that I am signing this Waiver
[name of parent/guardian]

voluntarily and knowingly, with a full and complete understanding of the terms and conditions of this Waiver.

Parent/Guardian or Adult Student Signature

Date

Appendix A

Suggested Roles and Responsibilities

School Administrators

1. Ensure adherence to districtwide policy for school-sponsored trips.
2. Communicate policy to all parties involved including staff, parents and students.
3. Encourage and support team planning for successful trips.
4. Encourage parents meeting to discuss details and requirements of the trip.
5. Support school nurse notification (at least four weeks prior to trip) and approval of all trips to identify and meet the health needs of students prior to your approval.
6. Ensure that the field trip coordinator has made arrangements by contacting the Director of Special Services to request a nurse at least three weeks prior to the trip for nursing coverage, if needed.
7. Serve as the key contact for emergencies during trips and involve the school nurse and school medical advisor as needed.
8. Determine alternative options or cancellation of trip if all students cannot attend the field trip due to the inability of the school district to accommodate the health or other special needs of students.

School Nurses

1. Adhere to district policy for field trips.
2. Obtain health information on all students participating from their health records and parental information.
3. Conduct a health and safety assessment of student needs based on a multitude of factors including severity of needs, location of trip, staff attending the trip, etc.
4. Contact visiting state board of nurses for permission to practice in that state if attending the trip and the state does not offer visiting status. (for out-of-state trips)
5. Contact visiting state board of nurses for information on nurse practice act, delegation and administration of medications laws and rulings if any care will be delegated to unlicensed personnel, such as the teacher or other school staff. (for out-of-state trips)
6. Develop nursing and emergency care plans for all students that will require medication, treatments or monitoring on the trip.
7. Obtain necessary medication and equipment for trip from parent at least three school days prior to departure.
8. Prepare all necessary medication, equipment and an emergency bag for the school staff.
9. Provide training to school staff regarding medication administration according to the Regulations and physician orders.
10. Provide training to school staff regarding any health care procedures to be performed and review emergency responses.

11. Determine competence of unlicensed school personnel to carry out medication administration and health care procedures.
12. Provide supervision to staff during the trip.

Important Note: School nurses may not provide the staff with more than one dose of medication from their school supply as this is considered dispensing and is not in the scope of practice for any nurse. For multiple doses, parents must provide the appropriate supply (i.e., three-day supply for three-day overnight field trip) from their pharmacy and ensure it is stored in an appropriately labeled pharmaceutical container.

School Personnel (teachers and other staff)

1. Adhere to districtwide policy regarding all aspects of field trips.
2. Include the school nurse in planning field trips to avoid any potential cancellations or situations of concern.
3. Notify the school nurse and obtain school nurse approval prior to principal approval and authorization of trip.
4. Contact the Director of Special Services to request a nurse for the trip if one is needed at least three weeks prior to the trip.
5. Communicate to parents the need for updated health and emergency information.
6. Participate in all trainings regarding health and safety of students prior to departure.
7. Be prepared to address emergency situations.
8. Contact the principal and school nurse as needed for health questions or emergencies while on the field trip.
9. Meet with the school nurse upon return to review documentation and performance of procedures and to debrief about the overall experience of the trip in meeting the students' health needs.

Parents/Students

1. Adhere to districtwide policy regarding all aspects of field trips.
2. Provide the school with updated health (including medication administration orders when necessary) and emergency information as required.
3. Adhere to districtwide policies regarding medication administration and self-administration of medications by students while on field trips.
4. Request from local pharmacy and provide school with an appropriately labeled medication container with only the amount of medication needed on the field trip.
5. For parents of students with special health care needs, consider attending if appropriate and requested by school personnel with the clear understanding that a school district cannot mandate or require parents to attend field trips as a means of accommodating a child with special health care needs.

Source: **Field Trips: Guidance for School Nurses**, Connecticut State Department of Education, June 2014.

Frequently Asked Questions (Pertaining to Medical Issues)

1. **Can a parent sign a relinquishment waiver to bring Glucagon for day trips only? Or can they sign a waiver for overnight trips as well?**
No. An order from the provider and parent approval for all medication actions (such as withhold, substitute, discontinue, etc.) for any school-sponsored trip is necessary.
2. **Can a parent assign a friend or relative to go on a field trip with their child in order to administer an emergency medication?**
No. According to the C.G.S. and regulations regarding medication administration in schools, only school nurses, qualified personnel or parents may administer medication to students.
3. **If the school district has current standing orders from our school physician (medical advisor) and signed parental permission on our Emergency Consent Forms, do we need a new authorization form for administration of medication for the trip signed by the child’s medical provider?**
Yes, unless the school nurse is accompanying the trip. Standing orders may be administered only by a nurse after an assessment of the student’s complaint and symptoms. Any medications delegated to qualified personnel in schools must have an individual student Medication Authorization Form.
4. **Can school nurses package multiple doses of meds for an extended day field trip?**
No. School nurses may not provide the staff with more than one dose of medication from their school supply as this is considered dispensing and is not in the scope of practice for any nurse.
5. **Can volunteers (such as parents) administer medications to students, other than their own children, on a field trip?**
No. According to the medication regulations, other than the school nurse, only “qualified personnel for schools” may administer medication in schools. “Qualified personnel for schools means (a) a full-time employee who meets the local or regional board of education requirements as a principal, teacher, occupational therapist or physical therapist and has been trained in the administration of medication in accordance with Section 10212a-3 of these regulations; (b) a coach and licensed athletic trainer who has been trained in the administration of medication pursuant to Section 10-212a-8 of these regulations; or (c) a paraprofessional who has been trained in the administration of medication pursuant to Section 10-212a- 9 of these regulations. For school readiness

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Appendix B
(continued)

programs and before- and after-school programs, directors or director's designee, lead teachers and school administrators who have been trained in the administration of medication may administer medications pursuant to Section 10-212a-10 of these regulations.”

6. Is the school nurse responsible for non-school sponsored field trips?

No. Although school personnel (including school nurses) are often aware of non-school sponsored field trips or planned privately sponsored trips, they are not required to plan, coordinate or supervise these activities.

7. Do nurses require permission from other states when administering nursing services on field trips?

Yes. For field trips outside Connecticut, it is necessary that the school nurses determine the licensure and practice acts in the visiting state or country. The regulations for practice can vary from state to state and because Connecticut is not part of the Nurse Licensure Compact, the nurse is only licensed to practice in Connecticut.

Source: Field Trips: Guidance for School Nurses Field Trips, Connecticut State Department of Education, June 2014

Instruction**Field Trips**

The Board of Education recognizes the valuable experiences derived from field trips for students when such trips are properly planned, executed and evaluated. To the extent that budgetary resources permit, the Board encourages field trips in connection with the work of an organized class or school activity. Field trips should be directly related to, or an extension of, the classroom learning experiences. Field trips may be used as springboards or culminating activities for units presented in the classroom or to provide “hands on” experience for students involved in the study of specific topics. In addition, field trips may introduce students to new learning experiences through the participation in, or observation of, activities such as exhibits, dramatic presentations and other timely and appropriate events.

All student field trips that involve the public solicitation of funds shall require Board approval before any fundraising by students or others on their behalf. Any such fundraising activities must comply with the provisions of Board Policy #1324 regarding fundraising activities.

All student field trips require prior written approval by the Board, Superintendent, and/or Principal, in accordance with the accompanying regulations and procedures. There will be no field trips taken without prior approval.

Given the paramount importance of student safety, the Board, acting through the Superintendent, reserves the right to cancel field trips for safety reasons at any time.

School district employees who organize trips independently of the Bristol Public Schools without receiving approval in accordance with this policy and regulations must notify the Superintendent in writing in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants and parents/guardians are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip.

The Board authorizes the Superintendent, and/or his or her designee, to promulgate administrative regulations and procedures in furtherance of this policy.

Policy adopted: April 5, 1995

Policy Revised: January 9, 2008

Policy Revised: October 5, 2011

Instruction

Field Trips

Definition:

A field trip is a trip off school grounds approved in accordance with these procedures taken in connection with the work of an organized class, school group, or school activity. School district employees who organize such trips are acting within the scope of their employment and are generally protected by statute against personal liability. Employees who organize trips independently of the Bristol Public Schools must notify the Superintendent in writing at least sixty (60) days in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants and parents/guardians are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip.

Homeland Security Procedures Affecting Field Trips:

Due to the uncertain nature of world security and other unforeseeable events, field trip participants must understand that the Board of Education reserves the right to cancel field trips at any time prior to the time of departure of the trip. The Bristol Board of Education or its agents will not be responsible for any financial losses or penalties incurred as a result of the cancellation of any field trip. Accordingly, students and their families are strongly encouraged to obtain adequate trip insurance to guard against any financial losses should a trip be cancelled.

The National Terrorism Advisory System, or NTAS will be used to inform the Superintendent about any possible safety issues to be considered prior to approving any field trip and/or when reconsidering approval of a previously scheduled trip. The National Terrorism Advisory System informs the American public about credible terrorism threats. NTAS alerts, issued by the Secretary of Homeland Security, include a clear statement that there is an imminent threat or elevated threat. The *Imminent Threat Alert* warns of a credible, specific, and impending terrorist threat against the United States. The *Elevated Threat Alert* warns of a credible terrorist threat against the United States. An individual threat alert is issued for a specific time period and then automatically expires. It may be extended if new information becomes available or the threat evolves. If there is sufficient reason to believe that staff and students' safety may be compromised, scheduled field trips may be cancelled at the sole discretion of the Superintendent. The decision of the Superintendent is final.

Cancellation of Field Trips. The Board of Education and/or the Superintendent of Schools reserves the right to cancel any trip, at any time, for any reason and the Board of Education is not responsible for any lost fees/costs to students/parents. Parents are encouraged to purchase trip insurance for any overnight/out-of-state field trip.

Types of Field Trips:

Curriculum-Based Field Trips – A curriculum-based field trip is any field trip that is a structured component of a curriculum or course and in which each student is expected to participate. There shall be no charge to students to participate in a curriculum-based field trip beyond a student's incidental expenses. These types of trips shall take place when school is in session. If parents do not allow their child to participate in a curriculum-based field trip, an alternate, relevant educational experience shall be provided to the student.

Enrichment Field Trips – An enrichment field trip is any field trip that extends learning beyond the requirements of what is called for in a curriculum or course. Costs associated with enrichment field trips are not accounted for in the district or school budget. Such costs may be paid through a combination of donations, fundraising activities and/or payments by students and/or parents. Every effort shall be made to insure that every student is able to participate in the field trip. Participation is optional and may be limited at the discretion of the sponsoring organization or principal. Any fundraising for such trips must be done in accordance with Board policies regarding fundraising. (See Board Policy #1324 Fundraising Activities). Enrichment field trips typically do not take place when school is in session. If an enrichment field trip does take place while school is in session, an alternate, relevant educational experience shall be provided to any student not going on the trip.

Athletic Field Trips - Athletic trips covered under this policy are any school team trips that include travel out of state and are overnight events. These will require Superintendent approval.

Recreational Field Trips – Trips for recreational purposes may be offered by recognized school-sponsored groups and, like other field trips, are subject to approval as set forth in the approval procedures below. Participation may be limited at the discretion of the sponsoring school organization or principal. Costs of recreational trips will be the responsibility of the sponsoring organization and the participating students. Any fundraising for such trips must be done in accordance with Board policy regarding fundraising. Staff will make every effort to insure that all students are able to participate in the field trip. (See Board Policy #1324, Fundraising). Recreational field trips typically do not take place when school is session. For Ski Club participants, Exhibit F, the Bristol Public Schools Ski Club Permission Form and the Ski Club Waiver, must be completed prior to student participation in the Ski Club.

General Field Trip Requirements:

1. All field trips approved in accordance with these regulations are considered school-sponsored activities, and the participating employees/volunteers are generally protected by statute against liability. Such field trips must be approved as follows:
 - a. All field trips must be supported by the appropriate application as described below, and all field trips must be approved in writing by the building principal.
 - b. All recreational trips and trips involving an overnight stay or out-of-state travel (including athletic field trips) must also be approved in writing by the Superintendent or his/her designee.

- c. All trips involving travel outside the continental United States must also be approved by the Superintendent, recommended by the Superintendent to the Board of Education for approval, and must be approved through vote by the Board of Education.
2. A copy of all non-curricular field trip requests must be sent to the Superintendent's office two weeks in advance of the trip.
3. School district employees who organize trips independently of the Bristol Public Schools must notify the Superintendent in writing at least sixty (60) days in advance of the trip, must not advertise or promote the trip at any time on school property or school activities, must assure that participants are notified that the trip is not affiliated with the Bristol Public Schools, and are personally liable for any such trip. Teachers/Sponsors seeking an exception to any of the rules or regulations governing school field trips must also obtain the written approval of the Superintendent of Schools prior to the trip.
4. Teachers/Sponsors must submit a Field Trip Request Form at least 4 weeks prior to the proposed trip. All information requested must be included on this form for approval [EXHIBIT B].
5. All students participating in any field trip must complete the district permission form [EXHIBIT A]. No other permission form may be substituted.
6. Students, staff and chaperones must continue to abide by all school rules and regulations during all school sponsored field trips. Failure to do so may result in disciplinary action.
7. Field Trip participants should be chaperoned during scheduled time as well as 'free' time.
8. Access to field trips shall be provided to all students to the extent practicable, and reasonable accommodations shall be made to permit participation by children with disabilities.
9. Activities of non-school groups or that are not approved in accordance with these procedures are not to be considered school field trips and do not fall under the purview of the Board. The Board is not responsible for any field trip which is not school-sponsored and has not been approved in accordance with school policy and procedures.
10. In deciding whether or not to grant approval for any field trip, the decision-maker shall consider the adequacy of any applicable insurance coverage for the proposed trip activities.
11. Student-teacher trips outside the boundaries of the continental United States are to be held at a time when classes are not in session. The only exception the Board will consider will be exchange programs where students attend school.
12. All chaperones must read and sign the "Rules for Field Trip" form for chaperones. (EXHIBIT D).

Procedures/Requirements for Curriculum-Based and Enrichment Field Trips:

1. The building principal shall review all plans for field trips, with the exception of trips abroad. The building principal has the authority to grant approval of such trips within the guidelines set forth hereafter. All field trip approvals shall be in writing.
2. Plans for field trips involving an overnight stay require approval in writing by of the principal and the Superintendent of Schools or his/her designee. [EXHIBIT B].
3. All student participants must be officially enrolled in the school.
4. Children of chaperones may only attend if they are enrolled in the class taking the field trip.
5. All field trips are to be planned with, and approved by, the principal. Pre-teaching, planning, and evaluation should always be a part of any given field trip.
6. Signed permission slips must be in the hands of the faculty sponsor, by the required date, before permitting students to participate in a field trip.
7. Prior to the trip, the responsible teacher shall:
 - a. Prepare parental permission slips, with all blanks filled in, and give to students. No student may go on a school trip unless the teacher has a signed permission slip.
 - b. Prepare a list of students and chaperones going on the trip and distribute to all teachers involved.
 - c. Remind students who may miss classwork or a test that they are responsible for making arrangements with the teacher to complete the classwork or test. (See Board Policy #[5113](#)).
 - d. Make alternative educational plans for any students who are not going on the trip.
8. In addition, the responsible teacher shall:
 - e. Before the Trip – establish a strong connection between classroom learning and anticipated field trip experiences.
 - f. During the Trip – encourage students to document their experiences through journal writing and photography.
 - g. After the Trip – encourage students to share their experiences with other students, clubs and faculty.

Additional Criteria/Requirements for Trips Abroad /Outside the Continental U.S.:

1. All field trips outside of the Continental United States must be approved by the Board. Anyone seeking approval for such a trip must submit a completed “Field Trip Form for Travel Outside the Continental United States” to the Board six months prior to the proposed trip. [EXHIBIT C]. This form must be completed in its entirety at the time the Board reviews the proposal.
2. Students may only participate in language-based international trips if they meet academic eligibility guidelines [see Policy 6145.2] and have at least an 80 average in that language course.
3. Such trips must be organized and conducted with a professional travel agency/organization which provides travel, housing and itinerary planning. The teacher planning the trip shall provide the full travel brochure from the organizing agency.
4. The travel agency/organization arranging the trip must provide evidence of appropriate liability/trip insurance with a coverage amount acceptable to the Board.
5. Approval of any trip outside the continental United States must take into consideration appropriate security factors (see Homeland Security Procedures, above). Parents and students should be reminded that such trips are subject to cancellation at the discretion of the Superintendent based on such security issues, including homeland security alerts and that they should consider purchasing trip cancellation insurance if available.
6. Field trips abroad/outside the continental U.S. must be an extension of the curriculum, whenever possible.
7. These types of trips should be planned for a scheduled school vacation.
8. Participation by students is optional and selection of student participants will be left to the discretion of the teacher/sponsor and considering all participation guidelines.
9. Adequate supervision and safety precautions shall be observed in accordance with the type of students, activities and nature of the trip involved. The chaperone/student ratio shall be in line with the recommendation of the

agency/outside organization planning the trip and should be consistent with the recommendations below. (See “Chaperones,” below).

10. Activities involving unnecessary risk (i.e. skiing, driving, motorcycling, etc.) must be excluded from any trip itinerary. In addition, any activity not covered by either the agency, or the city insurance carrier, should also be excluded. Organizers of any trip should ensure that the trip activities are compatible with existing liability policies.

11. School absences which may result due to a scheduled and approved field trip shall be considered excused absences for both students and chaperones, provided the trip has received Board approval.

1. Parent meeting: Discuss pertinent information regarding the proposed trip with parents. Keep records of dates of meetings, number in attendance, and handouts/information given.

2. Qualified Participants:

a. Students participating in a field trip abroad should be enrolled in the corresponding world language course. That is, trips to Italy would have as participants students enrolled in Italian I, II, III or IV. [Students with language proficiency may be considered for these trips without current enrollment in that language class on a space available basis].

b. Participants should have sufficient grasp of the language as to gain from this experience.

c. A world language course average of B or better is required for participation.

3. Plan the Itinerary:

a. Itinerary details must be available one (1) month prior to departure and provided to the student, their parent/guardian and the principal.

b. Include departure date and place, major events and activities, travel arrangements, planned stops and time and place for return.

c. Provide for adequate supervision of all students for the duration of the trip.

d. Prepare a detailed daily student itinerary.

e. Do not plan on high-risk activities such as para-sailing, surfing and water skiing.

4. Plan Housing:

a. Housing arrangements should be finalized at least one (1) month prior to departure.

b. Housing of students in private homes will be approved ONLY if organized and sponsored by a host organization such as a school or other accredited organization.

c. Prepare rooming assignments for students and chaperones.

d. Communicate housing information, including name, address and telephone numbers of the proposed housing units to both parents and students.

5. Transportation/Land:

a. Never allow students to drive motorized vehicles during a trip OR ride with a non-authorized individual.

b. Check with the organizing agency that all land transportation in the foreign country (to and from airport and all itinerary stops) is included in the price.

c. Transportation to and from departing U.S. airport, other than Bradley International, must be by charter coach.

6. Transportation/Air:

a. Confirm that the outside organization making the travel plans provides adequate basic coverage for trip cancellation. Complete cancellation coverage (in case of illness or death) should be available for students to purchase.

b. Confirm flight status and seat availability 24 hours prior to departure.

7. Rules of Conduct:

a. Rules on field trips are the same as required of students within the school confines. Students should be reminded that violation of school rules may result in disciplinary action, up to and including expulsion.

b. Parents and students should sign expected behavior rules agreeing to abide by the agreement which should include provisions that a student whose behavior is unacceptable may be sent home early with a chaperone at the parent's expense.

8. Chaperone compensation, if any, beyond the cost of their trip expenses (flight/hotel) shall be used to defray student expenses.

9. Health/Safety/Medical Procedures:

a. Emergency medical forms must be completed by parent before any student will be permitted to go on any such trip. Emergency medical information must be with the chaperones at all times.

b. Chaperones must be familiar with laws specific to the foreign country regarding prescription medications.

c. Discuss safety, including potential risks, and emergency procedures with students, parents and chaperones.

d. Be sure that the organizing agency has procedures and policies in place to deal with emergency medical situations.

e. In case of illness or accident, ensure enough adults are present so that one adult can remain with the students at all times.

f. Student/parent shall provide evidence of sufficient medical or accident insurance that will cover any possible injuries occurring outside the continental U.S. or while participating in a field trip abroad.

Chaperones:

1. It is necessary to have an adequate number of adult chaperones (including the responsible teacher) on all field trips. Factors to be considered in determining the specific number of adult chaperones for a given field trip include the age of the children, the location of the field trip and the nature of the field trip. The following are minimum student to chaperone ratios:

<u>GRADE LEVEL</u>	<u>RATIO</u>
PreK – K	4:1
1-5	7:1

6-8

10:1

9-12

15:1 (overnight 10:1)

2. No field trip shall be taken with fewer than two (2) chaperones.
3. Each adult chaperone shall be given direction by the teacher responsible for the trip regarding his/her responsibilities. Each chaperone is expected to cooperate completely with the teacher responsible for the trip.
4. No adult shall participate in a field trip unless that person is an official chaperone (except guardians and/or family members on a space availability basis).
5. Prior to each field trip the teacher or sponsor responsible for the trip will insure that all chaperones have read and signed the "Rules for Field Trip Chaperones" form and that this form is on file with the principal [EXHIBIT D] at least 4 weeks prior to departure.
6. The school district reserves the right to accept/reject potential chaperones who may serve as a trip chaperones for any given school field trip.
7. Board of Education employees whose assignment is unrelated to the field trip may only attend field trips as chaperones during school vacation periods.

Emergency Procedures for Field Trips:

In the event of a national or local emergency, the Superintendent of Schools (or designee) will consult with the responsible teacher/trip sponsor to plan for the safe return of students and staff. Participants may be instructed to return to Bristol as soon as is safely possible.

The following instructions are for the teacher/sponsor to follow in case of an emergency when on a field trip:

1. Comprehensive and careful planning for a field trip will help ensure the overall safety of students. The teacher/sponsor conducting the field trip should investigate as much as possible about the site of the field trip prior to the actual trip. Items to be investigated include, but are not limited to, accessibility for physically disabled students, emergency contact individuals and their telephone numbers at the site, emergency medical assistance that is available at the site, special facilities that are available for eating, and toilet facilities.

2. Additionally, the teacher/sponsor should secure Field Trip Permission Forms for all students, which should be taken on the trip. The Field Trip Permission Form shall clearly indicate the parent's decision regarding their child's participation or non-participation in the field trip, the child's name and the parent's signature. The teacher/sponsor should also have readily available a roster of the students on the trip with their corresponding emergency telephone contact numbers as well as knowledge of any special medical and/or health concerns. In case of an emergency while on a field trip (e.g., lost student(s), physical injury, medical alert, etc.), the teacher or appropriate supervising staff should adhere to the following:

- a. Directly attend to the immediate emergency situation.
- b. Contact the building principal (or designee) if the emergency occurs during the school day. If the emergency occurs during non-school hours, contact the designated person.
- c. The person making the telephone call will provide the principal (or designee) with the telephone number and location where they can be reached and a summary of the emergency situation and steps that have already been taken to address the emergency.
- d. The principal (or designee) will contact the student's parents to advise them of the emergency situation.
- e. If appropriate, the Emergency Management Team at the school will convene and activate the School Emergency Management Plan.

Buses:

The following directions are to be given to all bus drivers on Bristol School District field trips:

“Drivers will not depart from any educational, athletic or other school trip location without first confirming with the teacher in charge that all students have been accounted for and a roll has been taken. Trips requiring the use of multiple buses will leave and depart for Bristol and travel and park together. A lead bus will be determined by drivers before departure.”

Exception: When parents sign the Ski Club Permission Form, parents are acknowledging that they understand that Bristol will be providing transportation to and from the location of the ski club trip and that Bristol shall have no responsibility

to wait for their child if the child is not present when the transportation is leaving to go to or return from the ski club outing. [See EXHIBIT F.]

Regulation Approved: April 5, 1995

Regulation Revised: March 6, 2002

Regulation Revised: July 2, 2003

Regulation Revised: December 5, 2007

Regulation Revised: January 9, 2008

Regulation Revised: October 6, 2010

Regulation Revised: October 5, 2011

Bristol Public Schools

Field Trip Permission Form

A parent signature is required on this form for all field trips.

I have read the attached description of the field trip to be held on _____

to _____ and hereby consent to the participation of

my child, _____, in the activities described and I acknowledge that the Bristol Board of Education, its employees, agents and contractors are not liable for any injury, including, but not limited to death and serious bodily injury, that may result from any inherent risk in my child's participation in this field trip or from the negligent actions of third parties.

I authorize school officials to send my child home, at my expense, from any field trip should his/her behavior warrant such action.

I also consent to any emergency medical treatment that my child may require during the course of this trip. Specifically, I give permission for any EMT or emergency room personnel providing medical treatment to my child to release any protected health information regarding my child to accompanying school staff in accordance with the provisions of the Health Insurance Portability and Accountability Act ("HIPPA"). In signing this authorization, I understand that I am allowing school personnel to be present in my absence during any emergency interventions involving my child and consent to the on-site exchange of medical information necessary for immediate medical treatment. Any protected health information released to school staff during an emergency shall be treated as confidential student information protected from further disclosure in accordance with the provisions of Connecticut law and the Family Educational Rights and Privacy Act ("FERPA").

I understand that, because travel plans must be determined well in advance of departure, any prepayments toward this trip may be nonrefundable.

I understand further that Homeland Security issues may force the cancellation of this trip and forfeiture of my payment. By signing below, I understand and accept that circumstance may arise between now and departure which could cause the trip to be cancelled, which may result in financial loss. I further understand that the Bristol Board of Education will not be liable for any financial losses I may incur should this trip be cancelled due to security or other unforeseen reasons.

Date

Signature of Parent/Guardian

Physician's Name

Phone #1

Phone #2

Emergency Contact if Parent Cannot Be Reached (Name
& Phone #):

Are there any medical conditions of which we should be aware? Yes No

If yes, please explain on the back of this form.

Will your child require medication during this field trip? Yes No

If yes, please contact the school nurse to make arrangements.

Bristol Public Schools

Field Trip Request Form

(Use for all Field Trips)

School _____

Type of Field Trip: (Circle): Curriculum-
Based Enrichment Recreational Athletic

1. I have read the Board of Education policy and regulations #6153 Field Trips, and I hereby request approval to plan a school-sponsored field trip. _____

Name of Requester

Date

2. Trip
Destination: _____

3. Proposed
dates: _____

4. Plan and Educational Rationale: _____

(Attach a detailed plan for the proposed trip with a separate statement that describes the importance of the trip

to the students' classroom education and the district's specific curricular focus for those children.)

5. Type of Transportation to be used: _____

6. Grade Level: _____ Number of Pupils: _____

7. Type of Funding: _____ Estimated Total Budget: _____

8. Estimated Expenses Paid by Pupils: Total: _____ Per Pupil: _____

9. Method of Fund Raising (if needed): _____

10. Chaperones: _____

APPROVAL BY PRINCIPAL:

_____ Date _____

Principal's Signature

FOR OVERNIGHT STAY or OUT-OF-STATE TRIPS ONLY

11. What comparable educational experience is available in the Bristol area? _____

12. What days does the trip involve? (List days and date): _____

First Approval:

APPROVAL BY PRINCIPAL for planning of trip: _____

Date _____

Principal's Signature

Principal forwards the request to the Superintendent.

APPROVAL BY SUPERINTENDENT for planning of trip: _____

Date _____

Superintendent's Signature

Second Approval:

Three weeks prior to the overnight or out-of-state field trip, submit the completed plan to the principal, who will submit the completed plan to the superintendent.

APPROVAL BY PRINCIPAL of the completed plan for the field trip: _____ Date _____

Principal's Signature

APPROVAL BY SUPERINTENDENT of the completed plan for the field trip:

_____ Date _____

Superintendent's

Signature

C: Principal, Superintendent, Human Resources Office

Bristol Public Schools

Field Trip Request Form for Travel Outside the Continental United States

Directions:

1. All field trips outside of the Continental United States must be approved by the Board of Education. The following information must be presented to the BOE no less than 6 months prior to the date of the proposed trip. Agenda items for the Board meeting are due three weeks in advance of the meeting.
2. The documents must be reviewed and approved by the Building Principal and Teaching and Learning Supervisor prior to submitting for Board approval. Signatures required below.
3. The Superintendent and building principal will be provided with a final list of student participants, hotels and flight arrangements one month prior to departure.

Name of School _____ Date of
Request _____

Trip
to: _____

Dates of Proposed Trip

Number of students participating
(approximately) _____

Name of teacher(s) making
request _____

Number and names of teachers and chaperones:

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| _____ | |
| 2. _____ | 6. _____ |
| _____ | |
| 3. _____ | 7. _____ |
| _____ | |

4. _____ 8. _____

If more teachers or chaperones are required, please attach list on a separate piece of paper.

Transportation: Bus _____ Train _____ Plane _____ Car _____
Other _____

Are fund-raising activities planned? _____ If so, describe on a separate sheet.

Name of Travel Agency _____

Lodging: Hotel/Motel _____ Private Home _____
Other _____

Insurance Arrangements for Staff and Students: Insurance should be provided by Travel Agency. Please attach a copy of the travel agency's insurance coverage.

Cost per student for insurance (approximately) _____

Proposed Itinerary: Attach a separate sheet with the itinerary. Attach a copy of the full brochure from the travel agency.

Write a brief narrative explaining the purpose and educational value of the proposed trip.

Approval by Principal: _____ Date _____

Principal's Signature

Reviewed by Teaching and Learning Supervisor: _____ Date _____

Supervisor's Signature

Approval by the Superintendent of Schools: _____ Date _____

Superintendent's Signature

Attachments required: List of additional chaperones; description of fundraising activities; copy of travel agency's insurance certificate; itinerary; travel agency brochure; narrative regarding purpose/educational value.

Bristol Public Schools

Rules for Field Trip Chaperones

The Bristol Public Schools appreciate your agreement to serve as a field trip chaperone. For your protection and that of the school district, we want to assure that your responsibilities are clear, as follows:

1. Chaperones serve at the direction of the teacher/sponsor and/or administrators present. Please take your lead from them.
2. Chaperones are not responsible and have no authority for disciplining of students. While it is permissible to redirect a student's attention verbally, any behavior problems should be referred to the teachers and/or administrators present.
3. Chaperones do not have the authority to dispense medication, even non-prescription medication. If there is any request concerning medication, even aspirin or Tylenol, please refer it to the teachers and/or administration present.
4. If you are asked to stay with a particular student or group of students, it is important that you do so. If it is necessary to leave your group, please get the attention of and notify a teacher or administrator before doing so, so that alternative arrangements for supervising the students can be made.
5. Chaperones are not permitted to bring other children to events, including their own children.
6. Persons other than staff members serving as chaperones on overnight field trips may be asked to submit a background security check.
7. Chaperones are bound by and must follow all rules of the Bristol Public Schools, including but not limited to the strict prohibition against use of alcohol at any time while on a school trip.
8. Chaperones are asked to refrain from smoking in the presence of students.
9. If there are any special rules or requirements, the teachers and/or administrators supervising the trip will inform you.

I acknowledge receipt and that I have read these rules for chaperones and agree to abide by these and all other school rules and regulations.

Chaperone Name

Date

SAMPLE – Please adapt for your trip

Letter to Parents/Guardians

Re: Trip to [insert destination]

Dear Parents and Guardians:

As you know, your son or daughter is a member of the _____ Club. This year, the _____ Club has proposed a trip to _____ in [date].

Not surprisingly, school districts around the country are continually reconsidering the approval of field trips, based on the possibility of terrorist attacks and other concerns related to the safety of students. Trips involving travel to foreign countries are of particular concern. While the decision to participate or not participate in an approved trip will in each case be made by individual students and their parents, we will be reviewing any and all proposed trips on a continuing basis to determine whether certain trips should be canceled altogether.

At this point in time, the Board of Education has approved the proposed trip to [DESTINATION] in [DATE]. However, the Board reserves the right to reconsider that approval at anytime between now and the time of departure of the trip, based on the circumstances existing at the time. In addition, in the event that the Board decides at any point to rescind its approval of this trip, thereby canceling the trip, the Board will not be responsible for any financial losses or penalties incurred by the affected students or their parents or guardians.

We are confident that parents and students will understand our need to reassess on a continuing basis whether particular trips should go forward, based on the circumstances existing at the time. While we wish that we could provide students and parents with a definite statement about whether a trip will or will not go forward, that is simply not possible in these difficult, unpredictable times.

We appreciate your understanding in these matters, and we invite you to contact us if you have any questions.

Sincerely,

Bristol Public Schools

Ski Club Permission Form

I, _____, hereby give my permission for my son/daughter,

(name of
parent/guardian)

(name)

a student in the Bristol Public Schools, to participate in the Ski Club outings during the
_____ school year.

In giving this permission I have indicated my agreement to the following by circling my response:

I understand that Bristol will be providing transportation to and from the following location:
_____.

Bristol shall have no responsibility to wait for my child if my child is not present when the transportation is leaving to go to or return from this outing.

Agreed

I understand that the adult advisors to the Ski Club will ride the transportation with the students and be available on site at the outing. However, these advisors will have no responsibility for providing instruction, ensuring that my child has the correct equipment, that the equipment is in proper and safe working order, or that my child uses the equipment properly and in a safe manner. The advisors also shall have no responsibility for monitoring what trails or areas my child uses at the outing.

Agreed

Do you understand the nature of the trip and the risks inherent in skiing and snowboarding activities available to your student during the outing?

Yes No

Will your child require any special care or accommodations in connection with this trip? Include a complete description of your child's allergies, medication requirements and any medical, physical or other conditions related to care/supervision of your child.

Yes No

If yes, please explain: _____

We will contact you immediately in the event of the need for emergency medical treatment for your child. However, in the event of an urgent need to authorize emergency medical care, do you grant permission for medical treatment to be given and/or for the supervising staff (including volunteers) to take your child to the physician, dentist or hospital if an accident or serious illness occurs on the trip and you and the emergency contacts cannot be located in a timely fashion. You also understand and agree that you and not Bristol will have the responsibility for paying the costs of any such treatment.

Yes No

Do you understand and agree that because this trip is considered a school sponsored activity all Board of Education policies concerning student behavior will be in effect? Student misconduct will be addressed in accordance with Board of Education policy.

Yes No

Who may we contact during the Ski Club outings if we need to notify you of a problem, change of plans or emergency? Please provide as many names and numbers as possible.

I agree that _____ may participate in the Ski Club outings described above and that the

name of student

information provided above is accurate and complete.

_____ Date _____

Parent/Guardian Printed Name

Parent/Guardian Signature

Bristol Public Schools

Ski Club Waiver

I, the undersigned parent or guardian of _____, hereby acknowledge

(Child's Name)

that I have been properly advised, cautioned, and warned by the proper administrative personnel at the Bristol Public Schools that by participating in the Ski Club Outings, a student is exposing her/himself in the risk of serious injury, including but not limited to the risk of sprains, fractures, and ligament and/or cartilage damage which could result in a temporary or permanent, partial, or complete impairment in the use of limbs; brain damage, paralysis, or even death. Having been so cautioned and warned, it is still _____'s desire to participate in the activity

(Child's Name)

listed above.

It is hereby further acknowledged that _____ does so with full knowledge

(Child's Name)

and understanding of the risk of serious injury to which _____ is exposing

(Child's Name)

himself/herself by participating in the aforementioned activity.

The Bristol Board of Education, the Town of Bristol and their agents, employees, or members shall bear no responsibility for any accident or injury (including death) sustained by the Student while participating in the aforementioned trip to location(s) and all related travel and activities, including skiing and/or snowboarding to the extent permitted by law. To this end, I (for myself and the Student) hereby release and forever discharge the Board of Education, the Town of Bristol, and any of their members, employees or agents (including volunteers and chaperones) from any and all claims, demands, rights or cause of action of whatsoever kind or nature arising from, or by reason of, any and all known or unknown foreseen or unforeseen, bodily or personal injuries (including death), or damage to property and the consequences thereof which hereafter may be sustained by the Student or any parent or guardian or their heirs, executors or assigns, arising out of or in connection with the Student's participation in the Ski Club outings and all related travel and activities. Furthermore, the Parent hereby expressly stipulates and agrees to indemnify and forever hold harmless the Bristol Board of Education, the Town of Bristol, and any of its members, employees or agents (including volunteers and chaperones) against any and all loss from any and all claims, demands, or action in law or in equity that may hereafter be made or brought by any person or by the Student or by anyone acting on his behalf for the purpose of enforcing a claim for damages on account of any injury (including death) any damage arising out of or in connection with the Student's participation in the trip and all related travel and activities, and the costs of medical services.

I _____ represent and warrant that I am signing this Waiver

(name of parent/guardian)

voluntarily and knowingly, with a full and complete understanding of the terms and conditions of this Waiver.

Parent/Guardian or Adult Student Signature

Date