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.

See collegeboard.org/apcapstone for details.

CollegeBoard
New York, NY

AP® Research

Curriculum Framework

Part of the AP Capstone Program

NOTE: The information contained in this publication is subject to change. The final course and exam information will be available in the *AP Research Course and Exam Description*, which will be published in spring 2015.

About the College Board

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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.

Contents

AP Research Course Description

(Note: AP Seminar is a prerequisite for 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 approximately 4,000–5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense.

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.
    - Grayed-out learning objectives represent those from the AP Seminar course that are not assessed in the AP Research course.
    - Learning objectives presented in italics 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.
    - Grayed-out essential knowledge statements are those from the AP Seminar course that do not carry over into the AP Research course.
    - Essential knowledge statements presented in italics 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

- How might others see the problem or issue differently?
- What questions have yet to be asked?
- What do I want to know, learn, or understand?
- 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?

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know 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.	**LO 1.1A:** Identifying and contextualizing a problem or issue. **LO 1.1B:** Posing complex questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.	**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:** Strong research questions are open-ended and 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.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.1 continued)	**LO 1.1C:** Identifying a topic of inquiry.	**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. **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. **EK 1.1C3:** Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions.
	LO 1.1D: Articulating the purpose and significance of the scholarly inquiry.	**EK 1.1D1:** Scholars explore, explain, and create. **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. **EK 1.1D3**: Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.1 continued)	**LO 1.1E:** Developing and revising a focused research question/project goal.	**EK 1.1E1:** A research question/project goal emerges from the scholar's purpose (i.e., to explore, explain, and create). **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).
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.	***LO 1.2A:*** *Retrieving, questioning, organizing, and using prior knowledge about a topic.*	***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).* ***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.* ***EK 1.2A3:*** *Inquiry confirms or challenges one's existing understandings, assumptions, beliefs, and/or knowledge.*
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.	***LO 1.3A:*** *Accessing and managing information using effective strategies.*	***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).* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.3 continued)	***(LO 1.3A continued)***	***(continued)*** ***EK 1.3A2:*** *Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.* ***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).* **EK 1.3A4:** Consulting the bibliographies of other sources may provide additional ideas or resources. **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. **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. **EK 1.3A7:** Software and online tools (e.g., SurveyMonkey, SPSS) can be used to survey participants and analyze large data sets.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.3 continued)	***LO 1.3B:*** *Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.*	***EK 1.3B1:*** *The scope and purpose of one's research and the credibility of sources affects the generalizability and the reliability of the conclusions.* ***EK 1.3B2:*** *Credibility of evidence depends on use of sources and data that are relevant and reliable (current, authoritative).* ***EK 1.3B3:*** *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.* **EK 1.3B4:** 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.
EU 1.4: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.	**LO 1.4A:** Identifying the information needed and selecting appropriate strategies to find or collect it.	**EK 1.4A1:** 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.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.4 continued)	**LO 1.4B:** Designing, planning, and implementing a scholarly inquiry.	**EK 1.4B1:** Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal. **EK 1.4B2**: 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). **EK 1.4B3:** 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. **EK 1.4B4**: 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. ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.4 continued)	***(LO 1.4B continued)***	***(continued)*** **EK 1.4B5:** 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) **EK 1.4B6**: Scholars analyze data or information in a variety of ways appropriate to the inquiry. **EK 1.4B7:** 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. **EK 1.4B8:** Descriptive or inferential statistics can be used to display and/or analyze data. **EK 1.4B9:** Scholars often organize and categorize (or code) data/information to identify patterns or themes. **EK 1.4B10:** Scholars can combine qualitative and quantitative data/information to triangulate and corroborate trends, patterns, correlations, and/or themes.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 1.4 continued)	**LO 1.4C:** Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.	**EK 1.4C1:** Scholars carefully plan methods of inquiry, analysis, and other feasible research activities, taking into account deadlines, priorities, risks, setbacks, and the availability of others. **EK 1.4C2:** 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. **EK 1.4C3**: 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.
	LO 1.4D: Employing ethical research practices.	**EK 1.4D1:** Scholars have ethical and moral responsibilities when they conduct research. **EK 1.4D2:** 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). **EK 1.4D3**: There are copyright and patent laws and guidelines that govern the use and reproduction of others' instruments, work, personal information, and intellectual property.

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 ...)
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.	**LO 2.1A:** Employing appropriate reading strategies and reading critically for a specific purpose.	**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 (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 2.1 continued)	***LO 2.1B:*** *Summarizing and explaining a text's main idea or aim while avoiding faulty generalizations and oversimplification.*	***EK 2.1B1:*** *The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.* ***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.*
	LO 2.1C*: Summarizing and explaining the reasoning of an argument.*	***EK 2.1C1:*** *Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.* ***EK 2.1C2:*** *A lack of understanding of the complexities of an argument (tone, implications, limitations, nuance, context) can lead to oversimplification and/or generalization.*
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.	***LO 2.2A:*** *Identifying, explaining, and analyzing the logic and line of reasoning of an argument.*	***EK 2.2A1:*** *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.* ***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, to lead to a conclusion).* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 2.2 continued)	***(LO 2.2A continued)***	***(continued)*** ***EK 2.2A3:*** *Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).*
	LO 2.2B: *Describing and analyzing the relevance and credibility of evidence used to support an argument, taking context into consideration.*	***EK 2.2B1:*** *An argument's context (time and purpose) and situation (in relation to other arguments) inform its interpretation.* ***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.* ***EK 2.2B3:*** *Authors strategically include evidence to support their claims.* ***EK 2.2B4:*** *Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).* ***EK 2.2B5:*** *Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.* ***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.*

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 2.2 continued)	***LO 2.2C:*** *Evaluating the validity of an argument.*	**EK 2.2C1:** An argument is valid when there is logical alignment between the line of reasoning and the conclusion. **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. **EK 2.2C3:** Conclusions are contextual and their validity must be affirmed, qualified, or refuted.
	LO 2.2D: Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives.	**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.
EU 2.3: Arguments have implications and consequences.	***LO 2.3A:*** *Connecting an argument to broader issues by examining the implications of the author's claim.*	***EK 2.3A1:*** *The implications and consequences of arguments may be intended or unintended.*
	LO 2.3B: *Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument.*	***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).*

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 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.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
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 ...)
EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.	***LO 4.1A:*** *Formulating a complex and well-reasoned argument.*	***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 may acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 4.1 continued)	***(LO 4.1A continued)***	***(continued)*** ***EK 4.1A5:*** *The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.* ***EK 4.1A6:*** *The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion).* ***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).* ***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).* ***EK 4.1A9:*** *The same argument may be organized, arranged, or supported in multiple ways depending on audience and context.* **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. **EK 4.1A11:** 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. ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 4.1 continued)	***(LO 4.1A continued)***	***(continued)*** **EK 4.1A12:** Artists need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.
	LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.	**EK 4.1B1:** Each discipline has its own conventions and ways of knowing, questioning, and communicating. **EK 4.1B2:** Scholars apply discipline-specific terminology in the analysis of scholarly works. **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. **EK 4.1B4:** Disciplines may be broadly or narrowly defined. Disciplines can intersect or be combined to provide new understandings or perspectives.
EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.	***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.*	***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).* ***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.* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 4.2 continued)	***(LO 4.2A continued)***	***(continued)*** ***EK 4.2A3:*** *Evidence is chosen based on purpose (e.g., 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).* ***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).*
EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.	***LO 4.3A:*** *Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.*	***EK 4.3A1:*** *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.* ***EK 4.3A2:*** *Source material should be introduced, integrated, or embedded into the text of an argument.* ***EK 4.3A3:*** *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.* ***EK 4.3A4:*** *Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 4.3 continued)	***(LO 4.3A continued)***	***(continued)*** **EK 4.3A5**: 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).
EU 4.4: Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.	***LO 4.4A:*** *Extending an idea, question, process, or product to innovate or create new understandings.*	***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.*
EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities, consequences, and implications.	***LO 4.5A:*** *Offering resolutions, conclusions, and/or solutions based on evidence as well as considering consequences and implications.*	***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.*

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, mentors, 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 ...)
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.	**LO 5.1A[S]:** Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose, and using appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis). **LO 5.1A[R]:** Planning and producing a cohesive academic paper, considering audience, context, and purpose.	**EK 5.1A1[S]:** 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 *(EK 5.1A1[S] continues)*

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 5.1 continued)	***(LO 5.1A continued)***	***(EK 5.1A1[S] continued)*** • Conclusion: synthesizes reasoning, considers possible implications for the future, and ties back to the introduction • Bibliography: identifies works cited **EK 5.1A1[R]:** Inquiries result in conclusions that can be presented in different formats and that typically have the following elements: • 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 • Method, process, or approach: explains and provides justification for the chosen method, process, or approach • Results, Product, or Findings: presents the results, product, evidence, or findings • 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 ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 5.1 continued)	***(LO 5.1A continued)***	***(continued)*** ***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.*
	LO 5.1B: *Adhering to established conventions of grammar, usage, style, and mechanics.*	***EK 5.1B1:*** *A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.* **EK 5.1B2:** Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense. ***EK 5.1B3:*** *Precision in word choice reduces confusion, wordiness, and redundancy.* ***EK 5.1B4:*** *Spelling and grammar errors detract from credibility.*
	LO 5.1C: *Communicating information using effective techniques of design.*	***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.* ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 5.1 continued)	***(LO 5.1C continued)***	***(continued)***
		EK 5.1C2: *Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.*
		EK 5.1C3: *Effective communication requires choosing appropriate media according to context, purpose, and audience.*
	LO 5.1D: *Adapting an argument for context, purpose, and/or audience.*	***EK 5.1D1:*** *Arguments can be adapted by strategically selecting and emphasizing information considering audience, medium, and purpose.*
		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.
	LO 5.1E: *Engaging an audience by employing effective techniques of delivery or performance.*	***EK 5.1E1:*** *Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) emphasize information, convey tone, and engage their audience.*
		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.
		(Essential knowledge statements continue)

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 5.1 continued)	***(LO 5.1E continued)***	***(continued)*** **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.
	LO 5.1F: Defending inquiry choices and final product with clarity, consistency, and conviction.	**EK 5.1F1:** Scholars effectively articulate the rationale for inquiry choices in relation to the completed work. **EK 5.1F2:** Scholars engage thoughtfully with their audiences' critiques and questions.
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.	**LO 5.2A:** Providing individual contributions to overall collaborative effort to accomplish a task or a goal. **LO 5.2B:** Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.	**EK 5.2A1:** Knowing and communicating one's strengths and challenges to a group allows one's contributions to be more effective. **EK 5.2B1**: Teams are built around tasks. Low-risk teambuilding activities and simulations enhance a team's performance. **EK 5.2B2:** Teams function at their best when they understand the diversity of their social–cultural perspectives, talents, and skills. **EK 5.2B3:** Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation. **EK 5.2B4:** Effective teams consider the use of online collaborative tools.

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.	***LO 5.3A:*** *Reflecting on and revising their own writing, thinking, and creative processes.*	***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.* ***EK 5.3A2:*** *Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.* **EK 5.3A3:** Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation. **EK 5.3A4:** Scholars reflect on how the inquiry process helped them deepen their understanding, make important connections, and develop greater self-direction.
	LO 5.3B: Reflecting on personal contributions to overall collaborative effort.	**EK 5.3B1:** Reflective contributors acknowledge the impact of their actions on the outcome of the group's efforts, 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 goals.
	LO 5.3C: Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work.	**EK 5.3C1:** Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work. ***(Essential knowledge statements continue)***

Enduring Understandings (Students will understand that ...)	**Learning Objectives** (Students will be skilled at ...)	**Essential Knowledge** (Students will know that ...)
(EU 5.3 continued)	***(LO 5.3C continued)***	***(continued)*** **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.
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.	**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. **LO 5.4B:** Engaging in peer review to receive and consider responses to their work.	**EK 5.4A1:** Peer review should be based on guidelines and defined criteria appropriate to the work. **EK 5.4B1:** Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work. **EK 5.4B2:** Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.