

Enduring Understandings, Learning Objectives and Essential Knowledge

Taken From: AP Research Course and Exam Description, Fall 2017 (Pages 11-32)

KEY
<ul style="list-style-type: none"> ● Bold = NEW in AP Research ● <u>Underlined = Introduced in AP Seminar, built on in AP Research</u> ● <i>Italics = Previously assessed in AP Seminar</i> ● Alternating bands of white/shaded cells = Coordinating Items

Big Idea #1: Question and Explore		
<p>Inquiry and investigation begins 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.</p>		
<p>Essential Questions</p> <ul style="list-style-type: none"> ● 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	Learning Objectives	Essential Knowledge
<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>LO 1.1A: Contextualizing and identifying the complexities of a problem or issue.</i></p>	<p><i>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.</i></p>
	<p><i>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.</i></p>	<p><i>EK 1.1B1: Effective research questions lead to an examination taking into account the complexity of a problem or issue.</i></p>

		<i>EK 1.1B2: The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to complex issues.</i>
	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.
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		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.
	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.
	LO 1.1E: Developing and revising a focused research	EK 1.1E1: A research question/ project goal emerges from

	question/project goal.	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).
<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><u>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.</u></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><u>LO 1.3A: Accessing and managing information using effective strategies.</u></p>	<p><u>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).</u></p> <p><u>EK 1.3A2: Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.</u></p> <p><u>EK 1.3A3: Advanced search tools, Boolean logic, and keywords 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).</u></p>

		<p>EK 1.3A4: Consulting the bibliographies of other sources may provide additional ideas or resources.</p>
		<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>
		<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>EK 1.3A7: Software and online tools (e.g., SurveyMonkey, SPSS) can be used to survey participants and analyze large data sets.</p>
<p>EU 1.4: The relevance and credibility of the source of information is determined by the context of its use.</p>	<p><u>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.</u></p>	<p><u>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.</u></p>
		<p><u>EK 1.4A2: Credibility of evidence depends on use of sources and data that are relevant and reliable (current, authoritative).</u></p>
		<p><u>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.</u></p>
		<p>EK 1.4A4: When gathering data on individuals’ behaviors,</p>

		<p>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>
<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>LO 1.5A: Identifying the information needed for the context of the inquiry.</i></p>	<p><i>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 appropriate method of gathering it.</i></p>
	<p>LO 1.5B: Designing, planning, and implementing a scholarly inquiry</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,</p>

		<p>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>
		<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</p>

		may provide guidance and/or discipline-specific knowledge or perspective. Scholars must understand how to seek advice while maintaining self-sufficiency.
	LO 1.5D: Employing ethical research practices.	EK 1.5D1: Scholars have ethical and moral responsibilities when they conduct research.
		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).
		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.

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

Learning Objectives

Essential Knowledge

<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>LO 2.1A: Employing appropriate reading strategies and reading critically for a specific purpose.</i></p>	<p><i>EK 2.1A1: Reading critically means reading closely to identify the main idea, tone, assumptions, context, perspective, line of reasoning, and evidence used</i></p>
		<p><i>EK 2.1A2: Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning.</i></p>
		<p><i>EK 2.1A3: Strategies active readers use to make meaning from texts include annotating, note-taking, highlighting, and reading aloud.</i></p>
		<p><i>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.</i></p>
	<p><u>LO 2.1B: Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification.</u></p>	<p><u>EK 2.1B1: The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.</u></p>
		<p><u>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.</u></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><u>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</u></p>	<p><u>EK 2.2A1: Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.</u></p>
		<p><u>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).</u></p>
		<p><u>EK 2.2A3: Inductive reasoning uses specific observations and/or data points to identify trends, make generalizations, and draw</u></p>

		<p><u>conclusions. Deductive reasoning uses broad facts or generalizations to generate additional, more specific conclusions about a phenomenon.</u></p>
		<p><u>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.</u></p>
		<p><u>EK 2.2A5: Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).</u></p>
<p><u>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</u></p>		<p><u>EK 2.2B1: An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation.</u></p>
		<p><u>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.</u></p>
		<p><u>EK 2.2B3: Authors strategically include evidence to support their claims.</u></p>
		<p><u>EK 2.2B4: Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).</u></p>
		<p><u>EK 2.2B5: Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/ or patterns and trends.</u></p>
		<p><u>EK 2.2B6: Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions.</u></p>

		<u>opposing views or perspectives, and/or their own biases.</u>
	<u>LO 2.2C: Evaluating the validity of an argument.</u>	<i>EK 2.2C1: An argument is valid when there is logical alignment between the line of reasoning and the conclusion.</i>
		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.	<u>LO 2.3A: Connecting an argument to broader issues by examining the implications of the author's claim.</u>	<u>EK 2.3A1: The implications and consequences of arguments may be intended or unintended.</u>
	<u>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument</u>	<u>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).</u>

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	Learning Objectives	Essential Knowledge
<p>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.</p>	<p><u>LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.</u></p>	<p><u>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.</u></p>
		<p><u>EK 3.1A2: Perspectives are not always oppositional; they may be concurring, complementary, or competing.</u></p>
		<p>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.</p>
<p>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.</p>	<p><u>LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments</u></p>	<p><u>EK 3.2A1: Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic.</u></p>
		<p><u>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.</u></p>

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	Learning Objectives	Essential Knowledge
<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><u>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.</u></p>	<p><u>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.</u></p>
		<p><u>EK 4.1A2: Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.</u></p>
		<p><u>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.</u></p>
		<p><u>EK 4.1A4: Effective arguments may acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).</u></p>
		<p><u>EK 4.1A5: The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.</u></p>
		<p><u>EK 4.1A6: The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion).</u></p>
		<p><u>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).</u></p>
		<p><u>EK 4.1A8: Claims and supporting</u></p>

		<p>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>
		<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>
		<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>
		<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>
	<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</p>

		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.	<u>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.</u>	<u>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).</u>
		<u>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.</u>
		<u>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.</u>
		<u>EK 4.2A4: The evidence selected and attributed contributes to establishing the credibility of one’s own argument.</u>
	<u>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims.</u>	<u>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).</u>
EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.	<u>LO 4.3A: Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.</u>	<u>EK 4.3A1: Accurate and ethical attribution enhances one’s credibility.</u>
		<u>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.</u>
		<u>EK 4.3A3: Source material should be introduced, integrated, or</u>

		<u>embedded into the text of an argument.</u>
		<u>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.</u>
		<u>EK 4.3A5: Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).</u>
		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).
EU 4.4: Forming one’s own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence		<u>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.</u>
EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities and consequences.	<u>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</u>	<u>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.</u>

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	Learning Objectives	Essential Knowledge
<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>LO 5.1A[S]: Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose.</i></p>	<p><i>EK 5.1A1[S]: 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"> • Introduction: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and

		<p>identifies the gap in the current field of knowledge to be addressed</p> <ul style="list-style-type: none"> ● 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
		<p><u>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.</u></p>
	<p><u>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</u></p>	<p><u>EK 5.1B1: A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.</u></p> <p>EK 5.1B2: Effective sentences create variety, emphasis, and</p>

		<p>interest through structure, agreement of elements, placement of modifiers, and consistency of tense.</p>
		<p><u>EK 5.1B3: Precision in word choice reduces confusion, wordiness, and redundancy.</u></p>
		<p><u>EK 5.1B4: Spelling and grammar errors detract from credibility.</u></p>
	<p><u>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</u></p>	<p><u>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.</u></p>
		<p><u>EK 5.1C2: Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.</u></p>
		<p><u>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.</u></p>
	<p><u>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</u></p>	<p><u>EK 5.1D1: Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose.</u></p>
		<p>EK 5.1D2: Scholars should articulate their choices and content in a language that is not discipline-specific to communicate effectively to non-experts or people outside the discipline.</p>
	<p>∩ -</p>	<p><u>EK 5.1E1: Speakers vary elements</u></p>

		<p><u>of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) to emphasize information, convey tone, and engage their audience.</u></p>
		<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>
		<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>EK 5.1F1: Scholars effectively articulate the rationale for inquiry choices in relation to the completed work.</p>
		<p>EK 5.1F2: Scholars engage thoughtfully with their audiences' critiques and questions.</p>
<p><i>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.</i></p>	<p><i>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or a goal.</i></p>	<p><i>EK 5.2A1: Knowing and communicating one's strengths and challenges to a group allows one's contributions to be more effective.</i></p>
	<p><i>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.</i></p>	<p><i>EK 5.2B1: Teams are built around tasks. Low-risk team building activities and simulations enhance a team's performance.</i></p>
		<p><i>EK 5.2B2: Teams function at their best when they understand the diversity of their social-cultural perspectives, talents, and skills.</i></p>
		<p><i>EK 5.2B3: Teams function at their best when they practice effective interpersonal communication, consensus building, conflict</i></p>

		<i>resolution, and negotiation.</i>
		<i>EK 5.2B4: Effective teams consider the use of online collaborative tools.</i>
EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.	<u>LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes.</u>	<u>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.</u>
		<u>EK 5.3A2: Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.</u>
		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.
		<i>LO 5.3B: Reflecting on experiences of collaborative effort.</i>
	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.
		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>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 Master Syllabus

September 2018

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AP Research Student Syllabus

Grand Blanc High School, 2017-2018

ethical

Welcome to AP Research! Congratulations on a 100% Cohort Passing Rate in AP Seminar!!!

AP Research Course Overview:

From the College Board: *“AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long research-based investigation to address a research question.*

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000-5000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense.”

Capstone Rewards:

- **AP Capstone Diploma:** *“If you earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of your choosing, you will receive the AP Capstone Diploma™. This signifies outstanding academic achievement and attainment of college-level academic and research skills.”*
- **AP Seminar and Research Certificate:** *“...If you earn scores of 3 or higher in AP Seminar and AP Research only, you will receive the AP Seminar and Research Certificate™.”*
- **Admissions Edge:** AP Capstone candidates are now recognized on the the Common App!
- **University Credit:** Depending on what college students choose to attend, they might be awarded university credit for taking AP Capstone courses and passing the exams for AP Seminar/AP Research. **According to the College Board, the following schools currently “...have developed credit and placement policies for AP Seminar, AP Research, or both.”**
 - University of Michigan
 - Michigan State University
 - Grand Valley State University
 - Oakland University
 - Hope College
 - Siena Heights University
 - Wayne State University
 - Massachusetts Institute of Technology (MIT)...Harvard...Yale...
 - **Want to check other schools? <https://advancesinap.collegeboard.org/ap-capstone/higher-education-support>**

AP Research Course Description

AP Research is designed to allow you to dive into an academic topic, problem, or issue of individual interest. You will further develop the skills you acquired in the AP Seminar course by understanding research methods; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. The course culminates in an academic paper of 4,000-5,000 words and a presentation with an oral defense during which you will answer questions about your academic paper.

In the AP Research course, you will:

- *Employ research and inquiry methodology to develop, manage, and conduct an in-depth study or investigation of an area of student's own interest, culminating in a 4,000-5,000 word paper.*
- *Present (using appropriate media), and defend the research design, approach, and findings.*
- *Document and reflect upon the research process and communication with mentor using a research log.*

While the topic of each research study will vary, the course requires you to plan and conduct a study or investigation, including:

- *Investigating relevant topics, composing insightful problem statements, or developing compelling research questions (considering scope) to extend thinking*
- *Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project*
- *Identifying, applying, and implementing appropriate methods for research and data collection*
- *Accessing information using effective strategies*
- *Evaluating the relevance and credibility of information from sources and data*
- *Reading a bibliography for the purpose of understanding that it is a source for other research and for determining context, credibility, and scope*
- *Attributing knowledge and ideas accurately and ethically, using an appropriate citation style*
- *Evaluating strengths and weaknesses of others' inquiries and studies*

Taken from: <https://apstudent.collegeboard.org/apcourse/ap-research/course-details>

Instructional Framework:

In the AP Capstone™ program, students consider and evaluate multiple points of view to develop their own perspectives on complex issues and topics through inquiry and investigation.

[Students will use the QUEST framework] to develop, practice, and hone their critical and creative thinking skills as they make connections between various issues and their own lives:

- Question and Explore
- Understand and Analyze Arguments
- Evaluate Multiple Perspectives
- Synthesize Ideas
- Team, Transform, and Transmit

Source/Read More About It: <https://advancesinap.collegeboard.org/ap-capstone/how-ap-capstone-works>

Key AP Research Skills/Proficiencies:

AP Capstone Reasoning Processes (Course and Exam Description, 2017)

- **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 similarities within and/or across, concepts, disciplines, and cultures.

AP Research Course Transferable Skills and Proficiencies (Course and Exam Description, 2017)

- Produce Scholarly Work
- Employ Research Practices
- Analyze Sources and Evidence
- Understand Context and Perspective
- Communicate (interpersonal and intrapersonal)

Looking for more even more AP Capstone/AP Research information?

- **AP Research Student Homepage:** <https://apstudent.collegeboard.org/apcourse/ap-research>
- **AP Research Course Details:** <https://apstudent.collegeboard.org/apcourse/ap-research/course-details>
- **AP Research 2-Page Course Overview:** <https://apcentral.collegeboard.org/pdf/ap-research-course-overview.pdf?course=ap-research>
- **AP Capstone Overview:** <https://advancesinap.collegeboard.org/ap-capstone>

AP Research Exam:

Rather than a written exam, you will be assessed on your academic paper, a presentation, and an oral defense of your research. The academic paper is between 4,000-5,000 words in length, and the presentation and defense take 15-20 minutes. You will also be required to answer 3-4 questions from a panel of trained evaluators and your AP Research teacher.

- **Academic Paper (4,000-5,000 words) — 75% of score:** You will be evaluated on the content, structure, format, and conclusions of the paper as well as your ability to properly and accurately cite sources.
- **Presentation and Oral Defense — 25% of score:** The culminating event of the AP Research course will be a presentation of your research question, research methodology, and findings, including an oral defense that addresses a set of questions about your research inquiry. Those students who elect to investigate an artistic or other topic that lends itself to a performance, exhibit, or product will arrange for the panelists to view their work prior to the presentation and oral defense to provide additional context. This activity is not formally assessed.

Assessment Format: (Taken from AP Central)

Academic Paper:

- *Introduces and contextualizes the research question and initial student assumptions and/or hypotheses*
- *Reviews previous work in the field to synthesize information and a range of perspectives related to the research question (e.g., Literature Review)*
- *Identifies the gap in the current field of knowledge to be addressed*
- *Explains and provides justification for the chosen method, process, or approach*
- *Presents the findings, evidence, results, or product*
- *Interprets the significance of the findings, results, or product; explores connections to original research question*
- *Discusses the implications and limitations of the research or creative work*
- *Reflects on the process and how this project could impact the field*
- *Discusses possible next steps and/or future directions*
- *Provides a complete list of sources cited and consulted in the appropriate disciplinary style*

Presentation and Oral Defense:

- *All students will develop a 15 to 20-minute presentation (using appropriate media) and deliver it to an oral defense panel. Students may choose any appropriate format for their presentation, as long as the presentation reflects the depth of their research. Prior to the presentation, students whose academic paper was accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product) will arrange for the teacher and panelists to view the scholarly work.*
- *The defense will include three to four questions from a panel consisting of the AP Research teacher and two additional panel members (chosen at the discretion of the AP Research teacher)*

(Taken From: <https://apstudent.collegeboard.org/apcourse/ap-research/about-the-exam>)

College Board 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.

Academic Integrity Policy -- Grand Blanc High School

Grand Blanc High School has high expectations for all students and believes that all students should maintain high expectations for themselves and their classmates. This policy exists to foster an environment conducive to learning and to promote individual student achievement. It is the expectation of the Grand Blanc High School administration and faculty that individual students will adhere to this policy as honor and character are more valuable than any academic grade.

Please be aware that unless specifically directed by the teacher, students must assume that all portions of any assignment are to be completed individually. It is the responsibility of each student to understand a teacher's expectations for any assignment and/or assessment. If a student finds himself or herself in doubt regarding the expectations of an assignment or assessment, the student must ask the instructor for further clarification.

Definition of Academic Dishonesty

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.

Examples of academic dishonesty include, but are not limited to:

- Willingly and knowingly allowing another student to copy one's work without the knowledge or approval of the instructor Intentionally or inadvertently leaving one's written work available in a place that makes it possible for another student to copy Sending or sharing assessment information, assignments, or projects verbally, in writing, or electronically (i.e. pictorially, text, email) to another student.
- Participating in, contributing to, or withholding information about the academic dishonesty of another student Using or possessing "crib notes" or "cheat sheets," or accessing any written or electronic information when not permitted Inventing information or giving false information to deceive the educational process.
- Dishonest actions reported by the teacher any assignment or assessment submitted by a student which is not considered his/her original work.
- The use of course materials obtained without the instructor's permission.

Definition of Plagiarism

Plagiarism, which is copying work from another source and submitting it as one's own work, includes, but is not limited to:

- Altering words or the order of words from another source and submitting them as one's own work
- Submitting work written by college students, former students, tutors, friends, or other adults as one's own
- Copying another student's work, previously published material, or ideas from any source, including electronic and visual mediums, without citation

Please be aware that plagiarism is not defined simply by the copying of words and phrases, but more importantly, by the dishonest copying of ideas and concepts.

ACADEMIC DISHONESTY OFFENSES

Please note that these offenses are cumulative for one's academic career at Grand Blanc High School.

Category 1 Offense: Any incidents of academic dishonesty involving:

- Daily in-class assignments, other than tests, quizzes, labs, and essays
- Homework, other than tests, quizzes, labs, and essays
- Other formative assessments

Category 2 Offense: Any incidents of academic dishonesty involving:

- Quizzes
- Tests
- Labs
- Essays
- Multi-day projects
- Other summative or major assessments
- 2nd offense of a Category 1 Violation

Category 3 Offense: Any incidents of academic dishonesty involving:

- Quarterly or Semester exams
- Mid-term exams
- Final exams
- End-of-semester projects
- Exam essays
- 3rd offense or more of a Category 1 Violation
- 2nd offense or more of a Category 2 Violation
- Repetitious Violation of any Category
- Theft of Instructional or Assessment Material

CONSEQUENCES

Category 1 :

- Zero points and/or failing grade on the entire assignment
- Teacher may require completion of a redo or alternate assessment to assess mastery and understanding (with no credit awarded)
 - Should an alternate assignment be required and a student does not complete it in the allowed time, the offense will be increased to a Category 2.
- Administrator creates record of offense in the student's permanent discipline file
- Administrator assigns student Saturday School

Category 2:

- Zero points and/or failing grade on the entire assignment
- Teacher may require completion of a redo or alternate assessment to assess mastery and understanding (with no credit awarded)
 - Should an alternate assignment be required and a student does not complete it in the allowed time, the offense will be increased to a Category 3.
- Administrator creates record of offense in the student's permanent discipline file
- Discipline consequence— 1 to 5 days out-of-school suspension

Category 3:

- Zero points and/or failing grade on the entire assignment
- Teacher may require completion of a redo or alternate assessment to assess mastery and understanding (with no credit awarded)
 - Should an alternate assignment be required and a student does not complete it in the allowed time, the student will fail the course
- Administrator creates record of offense in the student's permanent discipline file
- Discipline consequence— 5 to 10 days out-of-school suspension

Additional consequences for cheating:

- Students involved in the National Honor Society caught violating the academic integrity policy will incur additional consequences to those listed above, including probation or dismissal from the organization.
- The following excerpt is taken directly from the Common Application, required by most colleges and universities throughout the state and country:

Discipline History:

Have you ever been found responsible for a disciplinary violation at any educational institution you have attended from 9th grade forward, whether related to academic misconduct or behavioral misconduct, that resulted in your probation, suspension, removal, dismissal, or expulsion from the institution?

Grading:

- **Grading Scale:** GBCS Common Grading Scale
- **Categories & Weights:**
 - **70% Summative** (Timely completion of exam/paper components, significant PREP assignments, polished speeches...etc.)
 - **30% Formative** (Informal PREP work, practice class activities, participation...etc.)
- **Late Work:** Late work will not be accepted for full credit (in the absence of significant extenuating circumstances). Students can lose up to 50% for late summative or formative work. Procrastination in this class can be disastrous; students will need to manage their time wisely.
- **Make-Up Work:** We follow the GBHS guidelines for makeup work; however, please note that deadlines for College Board Assessments are non-negotiable, and we cannot offer extensions.

Technology Expectations:

- Students are expected to bring a charged Chromebook/laptop to class every day.
- During class hours, students are to be logged into their device with their school-issued google login.
- During class, students should be in Google Docs, Google Classroom, searchable research databases (like EBSCO, GALE, Opposing Viewpoints) or engaging in other legitimate online academic activities connected to AP Research coursework...not shopping, watching youtube/Netflix, playing games, doing homework for another class, etc.
- Students should only use Chromebooks with instructor permission; headphones only allowed with instructor permission.
- From the 1:1 Device Handbook 2017: *“Student monitoring will be done through a product called Go Guardian. Go Guardian [allows] teachers to view the device screen at school [and] review Chromebook History... For more information on this product visit goguardian.com.”*

Important Notes!!!

1. ***Instructors are trained not to share any scoring of College Board exam components. Students will receive their AP Research exam score result directly from the College Board the summer after taking AP Research. As part of their class grade, students will be given summative scores for timely completion of exam components in Jupiter grades. Students can lose up to 50% for late work.***
2. ***Instructors are not allowed to give students personalized feedback on any exam element before the student work is turned in to be formally assessed, so students will need to rely on whole class lessons and peer feedback for revision of their exam work.***
3. ***All AP Research students are required to take the AP Research Exam. For planning purposes, the 2017 cost of this exam was \$141.00. Students and their families are responsible for this expense in the spring. If you receive free/reduced lunch and need assistance with this expense, please contact Mrs. Bleicher, Mrs. Shaver or Mrs. Gardner (in the counseling office).***

	Units	First Introduction of “Enduring Understandings” (EU’s are recursive & will be emphasized across units.)
Weeks 1-4	Transitions: Revisiting <i>AP Seminar Skills and Introducing AP Research (Developing Research Essentials)</i>	<ul style="list-style-type: none"> • 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. • EU 2.3: Arguments have implications and consequences. • 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. • EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation. • EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others. • 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. • EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications. • 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.
Weeks 5-8	Collecting Sources and Literature Review	<ul style="list-style-type: none"> • 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. • 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. • EU 1.4: The relevance and credibility of the source of information is determined by the context of its use. • 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. • 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. • 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. • EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.
Weeks 9-18	Research Design & Methods	<ul style="list-style-type: none"> • 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. EU 4.4: Forming one’s own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence

Weeks 19-22	Findings and Analysis of Data	<ul style="list-style-type: none"> • EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.
Weeks 23-26	Data Interpretation and Final Composition	<ul style="list-style-type: none"> • EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities and consequences.
Week 27-33	Oral Presentations	
Weeks 34-37	Poster Presentation and Publication	

Course Texts/Resources

AP Research Teacher Workbook	MeL Databases (Michigan E-Library) http://mel.org/databases <ul style="list-style-type: none"> • Academic Onefile • Federal Digital System • Military Intelligence Database • Opposing Viewpoints ...etc.
AP Research Student Workbook/PP Lessons	
AP Research Course & Exam Description	
Purdue Online Writing Lab (OWL)	
Easybib Pro	EBSCO
Bedford Researcher (as needed)	Turnitin

AP Research Units
KEY
<ul style="list-style-type: none"> ● Bold = NEW in AP Research ● <u>Underlined = Introduced in AP Seminar, built on in AP Research</u> ● <i>Italics = Previously assessed in AP Seminar</i>

Transitions: Revisiting AP Seminar Skills and Introducing AP Research Skills (weeks 1-4)	
Learning Objectives	Sample Activities
<i>LO 1.1A: Contextualizing and identifying the complexities of a problem or issue.</i>	<ul style="list-style-type: none"> ● Lesson 1: Bridging AP Seminar to AP Research <ul style="list-style-type: none"> ○ <i>Developing The Transferable Skills and Proficiencies of the QUEST (Teacher Workshop Handbook, 2017 pages 6-14)</i> ● Lesson 1: Situating the Approach for your QUEST <ul style="list-style-type: none"> ○ “Identifying Discipline Specific Ways of Knowing” (SWB 2016, pgs 6-7) ○ “Colors of Disciplinary Understanding” (SWB 2016, pgs 8-9) ● Lesson 2: “Types of Researchers” (SWB 2016, pgs 11-17) <ul style="list-style-type: none"> ○ “Thinking Ahead Developing Research Questions” (Student Workbook, 2016 page 18) ● Lesson 3: Preparing Students to Embark on the QUEST <ul style="list-style-type: none"> ○ <i>Introducing the Process and Reflection Portfolio (TWB 2017, pages 25-32)</i> ● Lesson 3: Big Idea 1: Question and Explore” <ul style="list-style-type: none"> ○ <i>Developing Research Questions</i> (SWB, 2016, pages 19-20) ○ <i>Transforming a problem or issue into a problem statement</i> (SWB, 2016, pages 21-22) ○ <i>Transforming a problem statement into a research question</i> (SWB, 2016, page 23) ○ <i>Evaluating and Revising Research Questions</i> (SWB, 2016 pages 24-26)
<i>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.</i>	
LO 1.1C: Identifying a topic of inquiry.	
LO 1.1D: Articulating the purpose and significance of the scholarly inquiry.	
LO 1.1E: Developing and revising a focused research question/project goal	
<u>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument</u>	
<u>LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.</u>	
<u>LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments</u>	
<u>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.</u>	
LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.	

<p><u>LO 4.3A: Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.</u></p>	<ul style="list-style-type: none"> ● Concept Mapping ● Analyze the paper rubric and code sample papers using it. ● Analyze the presentation rubric and code sample videos using it. ● Video and reflection “three ways to spot a bad statistic” <ul style="list-style-type: none"> ○ Video: http://tinyurl.com/ycydqnx4 ● Video and reflection “How to see past your own perspective and find truth” <ul style="list-style-type: none"> ○ Video: http://tinyurl.com/ya55veqk ● CRAAP method powerpoint bridging the gap between RAVEN and CRAAP <ul style="list-style-type: none"> ○ Helps students realize that credibility now also sits with the researcher not just the research itself. ○ https://drive.google.com/open?id=1Ux_n1D6lPqHfirwByVXVRrDS_Kbh2zLq_lFfnEWaGk ● Top Ten Things to Consider When Choosing a Research Topic https://drive.google.com/open?id=0B2TRCTYmSOZxT0gzMEN0aWxpd0E ● 6 Criteria of a Quality Research Question Graphic Organizer ● Research Question Speed Dating https://drive.google.com/open?id=1P7Z-aTPQ3L_JuK9E0NW3clmqtAq656nwOysUWNYIVhA ● Miscellaneous PREP Activities (Planning, Goal Setting, Reflection etc.) - See Appendix 2 <ul style="list-style-type: none"> ○ Students will develop a year-long calendar outlining the progress that they will be making each week. They will revise this as the course progresses, revising their goals as needed.
<p><i>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or a goal.</i></p>	
<p><i>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.</i></p>	
<p><u>LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes.</u></p>	
<p><i>LO 5.3B: Reflecting on experiences of collaborative effort.</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>LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose.</p>	
<p>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</p>	
<p><u>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</u></p>	
<p><u>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</u></p>	
<p><u>LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance.</u></p>	

Collecting Sources and Literature Review (weeks 5-9)

Learning Objectives	Sample Activities
<i>LO 1.1A: Contextualizing and identifying the complexities of a problem or issue. (x2)</i>	<ul style="list-style-type: none"> ● Lesson 4: Big Idea 2: Understand and Analyze <ul style="list-style-type: none"> ○ <i>Initial Searches and Annotated Bibliographies (SWB 2016, pgs 27-37)</i> ○ <i>SMARTER Searches (SWB 2016, pgs 38-39) - Situate/Method/Annotate/Reference/Transfer/Evaluate/Reflect</i> ○ <i>Evaluating Student Searches the SMARTER Way (SWB 2016, pgs 40-44)</i> ● Lesson 5: Big Ideas 1 & 2: Establishing Your Own Credibility <ul style="list-style-type: none"> ○ <i>"The Purpose of Establishing Credibility"/"Credibility Test Questions" (SWB, 2016, pages 46-47)</i> ○ <i>"Does it Pass the Credibility Test" (SWB, 2016, pages 47-54) CRAAP</i> ○ <i>Constructing Meaning from Multiple Sources (SWB 2016 pgs 55-65)</i> ○ <i>Addressing Credibility Through Use of Ethical Research Practices- Addressing Plagiarism, Copyright Infringement, Falsification/Fabrication of Information (SWB 2016, pgs 66-70)</i> ○ <i>Mini Lesson on Common Knowledge</i> ● Lesson 12: Big Idea 5: Team, Transform, Transmit <ul style="list-style-type: none"> ○ Presenting Where You are on Your QUEST (TWB, 2017 pages 114-115) <ul style="list-style-type: none"> ■ Developing your <u>poster presentation</u> (TWB 2017, page 116) ● Lesson 23: Big Idea 4: Synthesize Ideas <ul style="list-style-type: none"> ○ Moving from a Literature Review to Your Own Research (TWB 2017 pages 216-218) ● Perspectives/Stakeholder Refresher - Analysis of primary texts to identify multiple perspectives within a shared theme ● Big 6 Research Model ● Continued Searchable Databases (Gale/Ebsco) and Google Scholar Instruction (Review from AP Seminar) ● Biography Mining & Cited Reference Searching ● Big Idea 3: Evaluate Multiple Perspectives
LO 1.1C: Identifying a topic of inquiry. (x2)	
<u>LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue. (x2)</u>	
<u>LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments (x2)</u>	
<u>LO 4.3A: Attributing knowledge and ideas accurately and ethically, using an appropriate citation style. (x2)</u>	
<u>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.</u>	
<u>LO 1.3A: Accessing and managing information using effective strategies.</u>	
<u>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.</u>	
<i>LO 1.5A: Identifying the information needed for the context of the inquiry.</i>	
LO 1.5B: Designing, planning, and implementing a scholarly inquiry	
LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.	
LO 1.5D: Employing ethical research practices.	
<u>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</u>	
<u>LO 2.2C: Evaluating the validity of an argument.</u>	
LO 2.2D: Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives.	

LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments

LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose. (x2)

- 50 Source List Assignment
https://drive.google.com/open?id=1YZEX1L2HnFE0-BehXz6DuXJb6A47XPRMtVHzf_ob23U
- PAARC Instruction- Purpose, Accuracy, Authority, Relevance, Currency - Test for Credibility
- Literature Review Outline Document with Rubric /Practice Outlining Articles
<https://drive.google.com/drive/folders/0B2TRCTYmSOZxNDQ3eHF3SINQLTA>
- Citation Instruction (Building on AP Seminar Foundation)
- “Searching for **Synthesis** Activity” -- students articulate shared and challenged conclusions across texts
(**Synthesis** = “*The combination of accumulated knowledge and emerging ideas, perspectives and conclusions*”)
- Assessment of Annotated Bibliographies (sample, peer, self)
- Miscellaneous PREP Activities (Reading Log, Reading Annotations, Annotated Bibliography, Reflection)- See Appendix 2
- Elevator Pitch/Poster Presentations/”Status Updates”

Research Design & Methods (weeks 9-18)

Learning Objectives	Sample Activities
<i>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives. (x2)</i>	<ul style="list-style-type: none"> ● Lesson 12: Big Idea 5: Team, Transform, Transmit <ul style="list-style-type: none"> ○ Presenting Where You are on Your QUEST (TWB, 2017 pages 114-115) <ul style="list-style-type: none"> ■ Succinctly Articulating Your Proposed Inquiry: The Elevator Speech (TWB, 2017 page 117-118) ● Lesson 13: Big Idea 2: Understand and Analyze <ul style="list-style-type: none"> ○ Contextualizing Your QUEST with the Literature Review (TWB 2017, pages 119-132) ● Lesson 16: Big Idea 1: Question and Explore <ul style="list-style-type: none"> ○ <i>Aligning the Inquiry Approach, Design, and Method</i> (TWB 2017, pages 140-141) ○ <i>Aligning Approach, Design, and Method in Inquiry</i> (TWB 2017, pages 142-143) ○ <i>Check Your Alignment</i> (TWB 2017, pages 144-147) ● Lesson 17: Big Idea 1: Question and Explore <ul style="list-style-type: none"> ○ <i>Choosing and Defending an Inquiry Method</i> (TWB 2017, pages 148-153) ○ <i>Engage in Qualitative Methods: Field Observations and Interviews</i> (TWB 2017, page 154) ○ <i>Engaging in Mixed Methods</i> (TWB 2017, page 155-156) ○ <i>Rationale and Limitations for a Chosen Method</i> (TWB 2017, Page 157) ○ <i>Articulating Reasons for Using a Method and Acknowledging the Limitations</i> (TWB 2017, pages 158 - 160) ● Lesson 19: Big Idea 1: Question and Explore <ul style="list-style-type: none"> ○ <i>Engaging in Ethical Research Practices</i> (TWB 2017, pages 178-181) ○ <i>What is Ethical Research</i> (TWB 2017, pages 182-192) ○ <i>Checking for Ethical and Safe Research Practices</i> (TWB 2017 pages 193-202) ○ <i>Respect for Persons/Beneficence/Justice</i> ○ <i>Permission/Maintained Interests/Confidentiality/Anonymity</i>
LO 1.1D: Articulating the purpose and significance of the scholarly inquiry. (x2)	
LO 1.1E: Developing and revising a focused research question/project goal (x2)	
<u>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration. (x2)</u>	
LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale. (x2)	
<i>LO 1.5A: Identifying the information needed for the context of the inquiry. (x2)</i>	
LO 1.5B: Designing, planning, and implementing a scholarly inquiry (x2)	
LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project. (x2)	
LO 1.5D: Employing ethical research practices. (x2)	
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.	
<u>LO 4.2B: Providing insightful and cogent commentary that links evidence</u>	

with claims.

LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose. (x3)

- *Institutional Review Boards*
- *Institutional Animal Care and Use Committee*
- Instruction on:
 - Qualitative/Quantitative/Mixed Method
 - Meta-Analysis/Content Analysis
 - Experimental/Non-Experimental
 - Importance of Reproducibility
- **FORMAL INQUIRY/RESEARCH PROPOSAL (Due 11/30)**
 - Lesson 20: Formative Assessment and Feedback: The Proposal Form (TWB 2017 pages 203-206)
 - Students write/Teacher reviews & approves
- Review: Lesson 23: Big Idea 4: Synthesize Ideas
 - Moving from a Literature Review to Your Own Research (TWB 2017 pages 216-218)
- “Understanding the Institutional Review Board” document from the US Department of Health and Human Services
<https://drive.google.com/open?id=0B2TRCTYmSOZxdThHSXjkd1BUTVU>
 - Students peer review each other’s INQUIRY PROPOSAL FORM and provide feedback on how to transform their methods or questions to either become IRB exempt or gain IRB approval.
- Research in Other Contexts “The Sports Misery Index”
https://drive.google.com/open?id=1uTDmjX1UMZGpwEMkycoVH_eohTJM66n8lNQfSB9Id1c
- Survey and Mini Research Project
<https://drive.google.com/open?id=1rxPTclRvX9BQpHzreftQBd51LvWVcjDBdh1KS0jRBzA>
- Work with Expert Advisors
 - Other AP Teachers
 - Community Professionals
 - Skype a Scientist www.skypeascientist.com
- Miscellaneous PREP Activities (Research Question, Research Design, Research Proposal, Reflection)- See Appendix 2
 - PREP Prompts reflecting on how their research contributes to the larger community/fills a gap.
- Elevator Speech/Poster Presentations/“Status Updates”

Findings and Analysis of Data (weeks 23-26)

Learning Objectives	Sample Activities
<i>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives. (x3)</i>	<ul style="list-style-type: none"> ● Lesson 11: Big Idea 4: Synthesize Ideas <ul style="list-style-type: none"> ○ <i>Definitions, Assumptions, and Hypotheses (TWB, 2017 pages 108-113)</i> ● Lesson 18: Big Idea 4: Synthesize Ideas <ul style="list-style-type: none"> ○ <i>Organizing and Discussing the Results of Your Method TWB 2017, (page 161)</i> ○ <i>Ring of Truth Activity (TWB 2017, Pages 162-177)</i> ● Instruction on Method/Data Limitations ● Research in Other Contexts “The Sports Misery Index” https://drive.google.com/open?id=1uTDmjX1UMZGpwEMkycoVH_eohTJM66n8lNQfSB9Id1c ● Miscellaneous PREP Activities (Data Analysis/Reflection- See Appendix 2 ● Elevator Speech/Poster Presentations/”Status Updates” ● Instruction On: <ul style="list-style-type: none"> ○ Correlation vs. Causation ○ Quantitative Data <ul style="list-style-type: none"> ■ Descriptive Statistics <ul style="list-style-type: none"> ● Mean ● Median ● Mode ● Standard Deviation ■ Inferential Statistics <ul style="list-style-type: none"> ● Estimation ● T-Testing ● Sampling Distribution ● Hypothesis Testing ○ Qualitative Data <ul style="list-style-type: none"> ■ Thematic Grouping ■ Preliminary Discussion of Visuals ■ Graph Types <ul style="list-style-type: none"> ● Scatter plots ● Histograms ● Trend Lines...
<u>LO 2.3A: Connecting an argument to broader issues by examining the implications of the author’s claim. (x2)</u>	
<u>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.(x2)</u>	
<u>LO 1.3A: Accessing and managing information using effective strategies. (x2)</u>	
<u>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry. (x2)</u>	
<u>LO 2.1B: Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification. (x2)</u>	
<u>LO 3.2A: Evaluating objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments (x2)</u>	
LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project. (x3)	
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. (x2)	
LO 5.4B: Engaging in peer review to receive and consider responses to their work. (x2)	
<u>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.</u>	

<u>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims.</u>	<ul style="list-style-type: none">● Review Of:<ul style="list-style-type: none">○ Qualitative/Quantitative/Mixed Method○ Meta-Analysis/Content Analysis○ Experimental/Non-Experimental○ Importance of Reproducibility
<u>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims. (x2)</u>	

Data Interpretation and Final Composition (weeks 27-33)

Learning Objectives	Sample Activities
<u>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument</u> (x2)	<ul style="list-style-type: none"> ● Review Lesson 18: Big Idea 4: Synthesize Ideas <ul style="list-style-type: none"> ○ <i>Organizing and Discussing the Results of Your Method</i> (TWB 2017, page 161) ○ <i>Ring of Truth Activity</i> (TWB 2017, Pages 162-177) ● Academic Writing Mini-Lessons (Academic Tone; Punctuation Trouble-Shooting, etc.) ● Students Compose, Revise and Complete the Paper! (Weeks 27-33) ● Big Idea 5: Team Transform, Transmit - Collaboration <ul style="list-style-type: none"> ○ Collaboration with peers/expert advisors <ul style="list-style-type: none"> ■ Feedback <ul style="list-style-type: none"> ● Roundtable Discussions ● Feedback recorded in PREP logs ■ Revision <ul style="list-style-type: none"> ● Interactive Peer Revision Tool https://drive.google.com/open?id=1S4ChEYATjgAMpN3QFLfrgX-1j4cl9nm3CkWsPDgRuaY ● Interactive Peer Revision Tool for Academic Paper https://drive.google.com/open?id=1H21bjqPuw]1yKcM_Z]d-z2Vil4XtUJeCFat0ZdFk4-k ● Academic Paper Revision Exercise https://drive.google.com/open?id=0B2TRCTYmSOZxU05iaHBTaHd4UFU ● Miscellaneous PREP Activities (Communication Log/Data Analysis/Reflection)- See Appendix 2
LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale. (x3)	
<i>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or a goal.</i> (x2)	
<i>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.</i> (x2)	
<u>LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes.</u> (x3)	
<i>LO 5.3B: Reflecting on experiences of collaborative effort.</i> (x2)	
LO 5.3C: Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work. (x3)	
<i>LO 2.1A: Employing appropriate reading strategies and reading critically for a specific purpose.</i> (x2)	
<u>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</u> (x2)	
<u>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</u> (x2)	
<u>LO 2.2C: Evaluating the validity of an argument.</u> (x2)	
LO 2.2D: Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives. (x)	

<p>LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project. (x4)</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. (x3)</p>	
<p>LO 5.4B: Engaging in peer review to receive and consider responses to their work. (x3)</p>	
<p><u>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. (x2)</u></p>	
<p><u>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims. (x2)</u></p>	
<p><u>LO 4.4A: Extending an idea, question, process, or product to innovate or create new understandings. (x3)</u></p>	
<p><u>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</u></p>	
<p>LO 5.1A[R]: Planning and producing a cohesive academic paper, considering audience, context, and purpose. (x4)</p>	
<p><u>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics. (x2)</u></p>	
<p><u>LO 5.1C: Communicating information through appropriate media using effective techniques of design. (x2)</u></p>	
<p><u>LO 5.1D: Adapting an argument for context, purpose, and/or audience. (x2)</u></p>	

Oral Presentations (weeks 34-37)

Learning Objectives	Sample Activities
<i>LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or a goal. (x3)</i>	<ul style="list-style-type: none"> ● Lesson 26: Big Idea 5: Team, Transform, Transmit: Performance Assessment Task- The Presentation and Oral Defense <ul style="list-style-type: none"> ○ <i>What makes a good presentation (TWB 2017, pages 231-233)</i> ● Lesson 27: Big Idea 5: Team, Transform, and Transmit. Practice and Peer Review Make Permanent (TWB 2017, pages 234-235) <ul style="list-style-type: none"> ○ <i>Avoiding Good Information Presented Poorly (TWB 2017, page 236)</i> ○ <i>Peer-Review Personalities (TWB 2017, pages 237-238)</i> ○ <i>Prepare the Right Personality to Give and Receive Appropriate Feedback (TWB pages 239-+240)</i> ● Students prepare their Oral Presentation and Practice Oral Defense Questions ● Quality Speech Mini Lessons (Projection, Pacing, Eye-Contact, Vocal Variety, Control of Vocal Nervous Habits, Control of Physical Nervous Habits etc.) ● Mini practice speech with and without visual aids; reflection on challenges/benefits of each. ● Peer Review/Peer Feedback Sheets ● Critiquing Recorded Practice/Self Assessment (Students view practice videos of themselves to correct & revise) ● Interactive Peer Revision Tool https://drive.google.com/open?id=1S4ChEYATjgAMpN3QFLfrgX-1j4cl9nm3CkWsPDgRuaY
<i>LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems. (x3)</i>	
<i>LO 5.3B: Reflecting on experiences of collaborative effort. (x2)</i>	
LO 2.2D: Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives. (x3)	
LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project. (x5)	
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. (x4)	
LO 5.4B: Engaging in peer review to receive and consider responses to their work. (x4)	
<u>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims. (x3)</u>	
<u>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications. (x2)</u>	
<u>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics. (x3)</u>	
<u>LO 5.1C: Communicating information through appropriate media using effective techniques of design. (x3)</u>	
<u>LO 5.1D: Adapting an argument for context, purpose, and/or audience. (x3)</u>	

<u>LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance. (x3)</u>	
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AP Capstone Program Promotion & Inquiry Extensions (After Exams)

Learning Objectives	Sample Activities
*All introduced above!	<ul style="list-style-type: none">● Inquiry Extension:<ul style="list-style-type: none">○ Brief research proposal for an extension of their work (students explore what they would do if they continued their inquiry journey)○ Final Reflection/Elevator Speech/Poster Project/Status Updates (Publishing)● Capstone Program Promotions:<ul style="list-style-type: none">○ Video Testimonials reflecting on what they learned○ Letters to Prospective Capstone Candidates

The Big Ideas and Essential Questions of AP Research

Big Idea 1: Question and Explore

- 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 of inquiry I engage in to achieve it?
- What information/Evidence do I need to answer my research question?

Big Idea 2: Understand and Analyze

- 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?

Big Idea 3: Evaluate Multiple Perspectives

- 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?

Big Idea 4: Synthesize Ideas

- 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 that the conclusions I present are my own?

Big Idea 5: Team, Transform, and Transmit

- 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?

Appendix 2: PREP Directions & Components

AP Research: Process & Reflection Portfolio - PREP

Introduction

The primary purpose of the **Process and Reflection Portfolio (PREP)** is to document your development this year and to provide evidence that you have given a sustained effort throughout the inquiry process.

The portfolio will include a mix of both formative and summative assessments.

As part of PREP, you will document the key components of your inquiry project and reflect on the following:

- *your thought processes*
- *your challenges and successes in implementing these processes*
- *the development of your arguments or rationales.*

The PREP will also provide evidence to academic counselors, college admission officers and faculty members that you have done formal academic research.¹

PREP is required by the College Board as part of the *AP Research* curriculum.

Logistics:

Each week you will do the following as part of your PREP:

- Update your *Planning Calendar*.
- Fill out the *Weekly Log* which will document your progress and record updates on your thinking and the direction your work is going.
- Respond to a *Reflection Log* assignment related to an aspect of the QUEST² framework.
- Document formal and informal conversations in a *Conferencing Log*
- Add to the running record of your reading and note taking in a *Reading Log*
- Analyze, organize and cite *Foundational Research*

Throughout the year you will do the following as part of your PREP:

- Craft *Problem Statements, Research Questions and Research Proposals*
- Document and explore your research *Findings*
- Analyze and interpret *Data*
- Update instructors/classmates on your project with *Poster Presentations or Status Updates*
- Compose all required *Paper* elements
- Design your *Oral Presentation*
- Prepare for your *Oral Defense*

¹Excerpted from *AP[®] Research Course and Exam Description*. New York: College Board, 2017.

²Question and explore; Understand and analyze; Evaluate multiple perspectives; Synthesize ideas; and Team, transmit and transform

Organization:

- You will maintain both a “**Print PREP**” 3 ring binder AND a “**Digital PREP**” Google Drive folder.

PREP Structure	
Print PREP (3 Ring Binder)	Digital PREP (Google Drive Folder)
Directions: Please divide your 3 ring binder into the seven sub sections listed below!	Directions: Create a Google Drive folder shared with your instructors and label it as follows: “PREP- Your last name”. Organize the contents of your PREP folder into the seven subfolders described below.
1. Planning Calendar & Weekly Log (You may *also* opt to use a digital calendar/log; however we would also like a hard copy of your plans.)	1. Foundational Research <ol style="list-style-type: none"> a. Annotated Articles (if not done in hard copy) b. Credibility Assessments (if not done in hard copy) c. Annotated Bibliography (<u>must be digital</u>)
2. Reflection Log	2. Status Updates [Poster Projects]
3. Conferencing Log <ol style="list-style-type: none"> a. Notes on feedback and guidance from your instructor b. Notes from conversations with your expert adviser(s) c. Notes from conversations with peer reviewers 	3. Research Design & Methods <ol style="list-style-type: none"> a. Problem Statement (Drafts & Final) b. Revised Research Question (Drafts & Final) c. Research Proposal (Drafts & Final)
4. Formal Communications <ol style="list-style-type: none"> a. Permission requests and responses b. IRB requests and responses; consent forms c. All other correspondence (letters, emails, phone call notes...etc.) 	4. Polished Research Findings (Typed up observation notes, measurement data, survey results, interview notes, digital photographs etc.)

<p>5. Handouts</p> <ul style="list-style-type: none"> a. <i>AP Capstone® Policy on Plagiarism and Falsification or Fabrication of Information</i> b. Rubrics for the assessment tasks c. All other course handouts in chronological order 	<p>5. Data Analysis/Interpretation (Thoughts on the meaning and limitations of your data)</p>
<p>6. Foundational Research</p> <ul style="list-style-type: none"> a. Reading Log b. Annotated Articles* c. Credibility Assessments* (RAVEN, PA2C-DOE+, CRAAP) <p><i>*Article annotations and credibility assessments can also be done digitally.)</i></p>	<p>6. Paper (<i>Drafts & Final Composition</i>)</p> <ul style="list-style-type: none"> a. Abstract b. Introduction/Research Question c. Literature Review d. Methods/Process/Approach e. Results/Products/Findings f. Discussion/Analysis/Evaluation g. Conclusion/Future Direction h. Biography/Works Cited
<p>7. Raw Research Findings (<i>For Example: Observation Notes; Measurement Data; Survey Results; Interview Notes, Photographs...etc.</i>)</p>	<p>7. Presentation (<i>Drafts & Final Product</i>)</p> <ul style="list-style-type: none"> a. Slides/Notes b. Sample Responses to OD Questions

Appendix 3: Rubrics

Paper

2017-18 AP Research Academic Paper Rubric

The response...				
Score of 1 Report on Existing Knowledge	Score of 2 Report on Existing Knowledge with Simplistic Use of a Research Method	Score of 3 Ineffectual Argument for a New Understanding	Score of 4 Well-Supported, Articulate Argument Conveying a New Understanding	Score of 5 Rich Analysis of a New Understanding Addressing a Gap in the Research Base
<ul style="list-style-type: none"> Presents an overly broad topic of inquiry. Situates a topic of inquiry within a single perspective derived from scholarly works OR through a variety of perspectives derived from mostly non-scholarly works. Describes a search and report process. Summarizes or reports existing knowledge in the field of understanding pertaining to the topic of inquiry. Generally communicates the student's ideas, although errors in grammar, discipline-specific style, and organization distract or confuse the reader. Cites AND/OR attributes sources (in bibliography/works cited and/or in-text), with multiple errors and/or an inconsistent use of a discipline-specific style. 	<ul style="list-style-type: none"> Presents a topic of inquiry with limited scope or focus, that is NOT carried through either in the method or in the overall line of reasoning. Situates a topic of inquiry within a single perspective derived from scholarly works OR through a variety of perspectives derived from mostly non-scholarly works. Describes an oversimplified or nonreplicable research method, with questionable alignment to the purpose of the inquiry. Summarizes or reports existing knowledge in the field of understanding pertaining to the topic of inquiry. Generally communicates the student's ideas, although errors in grammar, discipline-specific style, and organization distract or confuse the reader. Cites AND/OR attributes sources (in bibliography/works cited and/or in-text), with multiple errors and/or an inconsistent use of a discipline-specific style. 	<ul style="list-style-type: none"> Carries the focus or scope of a topic of inquiry through the method AND overall line of reasoning, even though the focus or scope might be limited. Situates a topic of inquiry within relevant scholarly works of varying perspectives, although connections to some works may be unclear. Describes a replicable research method, with questionable alignment to the purpose of the inquiry. Conveys a new understanding or conclusion, with an underdeveloped line of reasoning OR insufficient evidence. Competently communicates the student's ideas, although there may be some errors in grammar, discipline-specific style, and organization. Cites AND attributes sources, using a discipline-specific style (in both bibliography/works cited AND in-text), with few errors or inconsistencies. 	<ul style="list-style-type: none"> Focuses a topic of inquiry with clear and narrow parameters, which are addressed through the method and the conclusion. Explicitly connects a topic of inquiry to relevant scholarly works of varying perspectives AND logically explains how the topic of inquiry addresses a gap. Logically defends the alignment of a detailed, replicable research method to the purpose of the inquiry. Supports a new understanding or conclusion through a logically organized line of reasoning AND sufficient evidence. The limitations and/or implications, if present, of the new understanding or conclusion are oversimplified. Competently communicates the student's ideas, although there may be some errors in grammar, discipline-specific style, and organization. Cites AND attributes sources, with a consistent use of an appropriate discipline-specific style (in both bibliography/works cited AND in-text), with few to no errors. 	<ul style="list-style-type: none"> Focuses a topic of inquiry with clear and narrow parameters, which are addressed through the method and the conclusion. Explicitly connects a topic of inquiry to relevant scholarly works of varying perspectives AND logically explains how the topic of inquiry addresses a gap. Logically defends the alignment of a detailed, replicable research method to the purpose of the inquiry. Justifies a new understanding or conclusion through a logical progression of inquiry choices, sufficient evidence, explanation of the limitations of the conclusion, and an explanation of the implications to the community of practice. Uses design elements, conventions of grammar, style, mechanics, and word precision to organize and enhance the communication of the student's ideas, with few to no errors. Cites AND attributes sources, with a consistent use of an appropriate discipline-specific style (in both bibliography/works cited AND in-text), with few to no errors.

Presentation

AP[®] RESEARCH 2017-18 SCORING GUIDELINES Performance Task Rubric: Presentation and Oral Defense

Content Area	Performance Levels		
1 Research Design	The presentation states the research question/project goal OR method OR argument, conclusion or understanding. <p style="text-align: center;">1</p>	The presentation states the research question/project goal AND method OR argument, conclusion or understanding. <p style="text-align: center;">2</p>	The presentation states the research question/project goal AND method AND argument, conclusion or understanding. <p style="text-align: center;">3</p>
2 Establish Argument	The presentation or additional scholarly work presents a generalized or oversimplified conclusion. <p style="text-align: center;">2</p>	The presentation or additional scholarly work presents a logically organized argument and explains the connections between evidence and the conclusion. <p style="text-align: center;">4</p>	The presentation or additional scholarly work presents an argument that identifies and explains the consequences and/or implications made in the conclusion. <p style="text-align: center;">6</p>
3 Reflect	The presentation states simplistic or overgeneralized connections between their initial assumption or hypothesis and the student's personal conclusion(s). <p style="text-align: center;">1</p>	The presentation describes evidence that affirmed or refuted the student's initial assumption or hypothesis. <p style="text-align: center;">2</p>	The presentation explains how steps in the research process led to the development of the student's personal conclusion(s). <p style="text-align: center;">3</p>
4 Engage Audience	The design, delivery or performance techniques (e.g., eye contact, vocal variety, emphatic gestures, movement) hampers effective communication AND/OR severely limit the presentation's impact. <p style="text-align: center;">2</p>	The delivery of performance techniques (e.g., eye contact, vocal variety, emphatic gestures, movement) does not detract from the communication of the argument. <p style="text-align: center;">4</p>	A careful selection, for a targeted audience, of design, delivery or performance techniques (e.g., eye contact, vocal variety, emphatic gestures, movement), coupled with a dynamic execution of those techniques, enhances the communication of the argument. <p style="text-align: center;">6</p>
5 Establish Argument <i>(Research/Inquiry Process Defense Question)</i>	The oral defense identifies the inquiry choice in response to the question posed, but the explanation of the choice is superficial or illogical. <p style="text-align: center;">1</p>	The oral defense provides a rationale by logically explaining why the choices made during the inquiry process were appropriate. <p style="text-align: center;">2</p>	
6 Establish Argument <i>(Depth of Understanding Defense Question)</i>	The oral defense provides a simplistic response to the question posed with few, if any, details that would illuminate the new understanding. <p style="text-align: center;">1</p>	The oral defense provides specific details to address the question posed and describes the relationship of those details to the new understanding. <p style="text-align: center;">2</p>	
7 Reflect <i>(Reflection Throughout the Inquiry Process Defense Question)</i>	The oral defense makes a connection to personal learning in the context of the inquiry superficially, but does not necessarily answer the question posed. <p style="text-align: center;">1</p>	The oral defense provides an explanation of how the project or process, in the context of the question posed, is significant for the student's own understanding, self-awareness, or personal learning. <p style="text-align: center;">2</p>	

NOTE: To receive the highest performance level presumes that the student also achieved the preceding performance levels in that row.

ADDITIONAL SCORES: In addition to the scores represented on the rubric, teachers can also assign scores of **0** (zero).

- A score of **0** is assigned to a single row of the rubric when the presentation displays a below-minimum level of quality as identified in that row of the rubric.
- A score of **0** is assigned to row 5, 6, or 7 of the rubric when the response is off-topic.