COURSE OVERVIEW

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

AP CAPSTONE REASONING PROCESSES

AP Research students engage in intentional and specific reasoning strategies throughout the research process. These include:

- Situating – being aware of the context of one’s own as well as others’ perspectives, realizing that individual bias can lead to assumptions;

* Adapted from the AP Research Course and Exam Description, Sample Syllabus 4, and AP Research Workshop Handbook and Resources
• Choosing – making intentional and purposeful choices, realizing that choices have both intended and unintended consequences;
• Defending – being able to explain and justify personal choices, logic, line of reasoning, and conclusions; and
• Connecting – seeing intersections within and/or across concepts, disciplines, and cultures.

THE BIG IDEAS
AP Research is not restricted to a particular content area. Rather, students are free to pursue whatever content area interests them, while developing competency in core academic skills. The acronym QUEST is used to capture the five big ideas that represent the structural framework of the AP Capstone course:

• QUESTION and Explore: Read critically; pose questions and identify issues that compel you to want to explore further.
• UNDERSTAND and Analyze: Use specific tools – such as re-reading, questioning in the text, and considering multiple perspectives – to break down an idea or argument into parts that make sense to you.
• EVALUATE Multiple Perspectives: Identify a variety of perspectives, viewpoints, and/or arguments of an issue and consider any bias to determine the validity of that point of view.
• SYNTHESIZE Ideas: Create new perspectives after evaluating other varying perspectives and establishing a unique position or claim using a variety of resources designed for a specific audience.
• TEAM, Transform, and Transmit – Communicate the message clearly and effectively so as to transform both participants and audience.

For each big idea, there are essential questions (open-ended questions) and enduring understandings (long-term learning goals). Enduring Understandings are framed as learning objectives (assessed skills) through which the student should be able to demonstrate essential knowledge that confirms his/her mastery of the facts and basic concepts.

The Big Ideas, Learning Objectives and Essential Knowledge are set out in detail below.

Key:
Grey with Strikeout = Seminar only (not applicable to AP Research)
Highlighted = New to Research
No Highlight = Carries over from Seminar
BIG IDEA#1: QUESTION AND EXPLORE

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

Essential Questions

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

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<tr>
<th>Enduring Understandings</th>
<th>Learning Objectives</th>
<th>Essential Knowledge</th>
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<td>(Students will understand that . . . )</td>
<td><strong>LO 1.1A:</strong> Contextualizing and identifying the complexities of a problem or issue.</td>
<td><strong>EK 1.1A1:</strong> 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.</td>
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<td><strong>EU 1.1:</strong> 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.</td>
<td><strong>LO 1.1B:</strong> Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.</td>
<td><strong>EK 1.1B1:</strong> Effective research questions lead to an examination taking into account the complexity of a</td>
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<td>EU 1.1</td>
<td>LO 1.1C: Identifying a topic of inquiry.</td>
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<tr>
<td>Personal interest and intellectual curiosity inspire investigation of topics or <strong>issues</strong> that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further <strong>inquiry</strong> can lead to unexpected <strong>conclusions, resolutions, innovations, or solutions.</strong></td>
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| EK 1.1B2: | The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to **complex issues.** |

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<tr>
<th>LO 1.1D:</th>
<th>Articulating the purpose and significance of the scholarly inquiry.</th>
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<tr>
<td>EK 1.1D1:</td>
<td>Scholars explore, explain, and create. <strong>EK 1.1D2:</strong> 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.</td>
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<p>| EK 1.1C1: | Topics of inquiry may come from personal interest, passion for a discipline/field, desire to better understand a topic, or desire to address an issue in the world. <strong>EK 1.1C2:</strong> The inquiry process involves exploring the knowledge base associated with the topic of interest, including a variety of <strong>perspectives,</strong> and adjusting the scope of the topic to the parameters, requirements, and resources available for the project. <strong>EK 1.1C3:</strong> Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions. |</p>
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<tr>
<th><strong>EU 1.2</strong>: 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.</th>
<th><strong>LO 1.2A</strong>: Retrieving, questioning, organizing, and using prior knowledge about a topic.</th>
<th><strong>EK 1.2A1</strong>: Understanding comes not only through collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, assumptions). <strong>EK 1.2A2</strong>: A variety of strategies (e.g., brainstorming, concept mapping, prewriting, exploration of space, drafting) can be used to illustrate, organize, and connect ideas. <strong>EK 1.2A3</strong>: Inquiry confirms or challenges one’s existing understandings,</th>
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<td><strong>LO 1.1E</strong>: Developing and revising a focused research question/project goal.</td>
<td><strong>EK 1.1D3</strong>: Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community.</td>
<td><strong>EK 1.1E1</strong>: A research question/project goal emerges from the scholar’s purpose (i.e., to explore, explain, and create). <strong>EK 1.1E2</strong>: A research question/project goal often requires multiple revisions to ensure it is appropriate in terms of scope and feasibility (time, resources).</td>
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| **EU 1.3:** The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible. | **LO 1.3A:** Accessing and managing information using effective strategies. | **EK 1.3A1:** Information used to address a problem may come from various secondary sources (e.g., articles, other studies, analyses, reports) and/or primary sources (e.g., original texts and works, material culture, or personally collected data such as from experiments, surveys, questionnaires, interviews, observations, personal narratives).

**EK 1.3A2:** Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.

**EK 1.3A3:** Advanced search tools, Boolean logic, and key words allow scholars to refine, focus, and/or limit their searches based on a variety of factors (e.g., date, peer-review status, type of publication).

**EK 1.3A4:** Consulting the bibliographies of other sources may provide additional ideas or resources.

**EK 1.3A5:** Social media may be used as a potential source of information, but an understanding of its
| EU 1.4: The relevance and credibility of the source of information is determined by the context of its use. | LO 1.4A: Evaluating the relevance and **credibility** of the source of information and data in relation to the inquiry. | **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. **EK 1.4A2:** Credibility of **evidence** depends on use of sources and data that are relevant and reliable (current, authoritative). **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 limitations is necessary to maintain **credibility**. **EK 1.3A6:** Software (e.g., Microsoft Word, EndNote) and online tools (e.g., citation generators, WorldCat) are used by scholars to manage and catalog sources and produce bibliographies. **EK 1.3A7:** Software and online tools (e.g., SurveyMonkey, SPSS) can be used to survey participants and analyze large data sets. |
how others respond to their work. Scholarly articles are often peer reviewed, meaning the research has been reviewed and accepted by disciplinary experts.

**EK 1.4A4:** When gathering data on individuals’ behaviors, attitudes, and preferences, the accuracy and **validity** of such data depends on the honesty, memory, and reliability of the respondents and/or observers as well as the design of the data collection instrument.

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<tr>
<th>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</th>
<th><strong>LO 1.5A:</strong> Identifying the information needed for the context of the inquiry.</th>
<th><strong>EK 1.5A1:</strong> The way the problem is posed, situated, framed, or contextualized will guide the inquiry process and influence the type of information needed and the appropriate method of gathering it.</th>
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<tr>
<td>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</td>
<td><strong>LO 1.5B:</strong> Designing, planning, and implementing a scholarly inquiry.</td>
<td><strong>EK 1.5B1:</strong> Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal. <strong>EK 1.5B2:</strong> Methods of inquiry may include research methods (e.g., <strong>qualitative</strong>, <strong>quantitative</strong>, or mixed) or artistic processes (e.g., generating, conceptualizing, testing, and then refining).</td>
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aesthetic approaches).

**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.

**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.

**EK 1.5B5:** Based on the research question or project goal, methods of data or information collection may be qualitative (e.g., open-ended survey questions, interviews, observational notes, interpretation of texts); may be quantitative (e.g., precise measurements, modeling, using structured and validated data collection instruments and procedures); or could include a combination of both qualitative and quantitative (mixed).

**EK 1.5B6:** Scholars analyze data or information in a
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<th><strong>LO 1.5C</strong>: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.</th>
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| **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. **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

| **variety of ways appropriate to the inquiry.** |
| **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. **EK 1.5B8**: Descriptive or inferential statistics can be used to display and/or analyze data. **EK 1.5B9**: Scholars often organize and categorize (or code) data/information to identify patterns or themes. **EK 1.5B10**: Scholars can combine qualitative and quantitative data/information to triangulate and corroborate trends, patterns, correlations, and/or themes. |
approaches or look to other disciplines in order to achieve them.

**EK 1.5C3:** Experts in the field may provide guidance and/or discipline-specific knowledge or perspective. Scholars must understand how to seek advice while maintaining self-sufficiency.

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<th>LO 1.5D: Employing ethical research practices.</th>
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<td><strong>EK 1.5D1:</strong> Scholars have ethical and moral responsibilities when they conduct research.</td>
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<td><strong>EK 1.5D2:</strong> 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).</td>
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<tr>
<td><strong>EK 1.5D3:</strong> There are copyright and patent laws and guidelines that govern the use and reproduction of others’ instruments, work, personal information, and intellectual property.</td>
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**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 argument’s main idea and what reasoning does the author use to develop it?
- Why might the author view the issue this way?
- What biases may the author have that influence his or her perspective?
- Does this argument acknowledge other perspectives?
- How can I assess the quality or strength of others’ research, products, or artistic works?

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<th><strong>Essential Knowledge</strong> (Students will know that . . .)</th>
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<tr>
<td><strong>EU 2.1:</strong> 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.</td>
<td><strong>LO 2.1A:</strong> Employing appropriate reading strategies and reading critically for a specific purpose. [What is an appropriate reading strategy?]</td>
<td><strong>EK 2.1A1:</strong> Reading critically means reading closely to identify the main idea, tone, assumptions, context, perspective, line of reasoning, and evidence used. <strong>EK 2.1A2:</strong> Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning. <strong>EK 2.1A3:</strong> Strategies active readers use to make meaning from texts include . . .</td>
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<tr>
<td>EU 2.1: Authors express their ideas, perspectives, and/or <strong>arguments</strong> 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.</td>
<td>LO 2.1B: Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification.</td>
<td>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.</td>
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<td>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.</td>
<td>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</td>
<td>EK 2.2A1: Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence. 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). <strong>EK 2.2A3: Inductive</strong></td>
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reasoning uses specific observations and/or data points to identify trends, make generalizations, and draw conclusions. **Deductive** reasoning uses broad facts or generalizations to generate additional, more specific conclusions about a phenomenon.

**EK 2.2A4:** A lack of understanding of the complexities of an argument (tone, implications, limitations, nuance, context) can lead to oversimplification and/or generalization.

**EK 2.2A5:** Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).

**LO 2.2B:** Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.

**EK 2.2B1:** An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation.

**EK 2.2B2:** Writers use qualitative and/or quantitative evidence (e.g., facts, data, observations, predictions, analogies, explanations, opinions) to support their claims. Evidence has varying
| LO 2.2C: Evaluating the validity of an argument. | degrees of validity.

**EK 2.2B3:** Authors strategically include evidence to support their claims.

**EK 2.2B4:** Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).

**EK 2.2B5:** Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.

**EK 2.2B6:** Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own biases.

|  | **EK 2.2C1:** An argument is valid when there is logical alignment between the line of reasoning and the conclusion.  

**EK 2.2C2:** Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations |
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<th>BIG IDEA #3: EVALUATE MULTIPLE PERSPECTIVES</th>
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<td>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.</td>
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**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 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?

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<tr>
<td><strong>EU 3.1:</strong> 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.</td>
<td><strong>LO 3.1A:</strong> Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.</td>
<td><strong>EK 3.1A1:</strong> 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. <strong>EK 3.1A2:</strong> Perspectives are not always oppositional; they may be concurring, complementary, or competing. <strong>EK 3.1A3:</strong> Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.</td>
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<td><strong>EU 3.2:</strong> Not all arguments are equal; some arguments are more credible/valid than others. Through evaluating others’ arguments, one’s own arguments can be situated</td>
<td><strong>LO 3.2A:</strong> Evaluating alternate, opposing, or competing perspectives or arguments, by considering their implications or limitations. [2020 update]</td>
<td><strong>EK 3.2A1:</strong> Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic. <strong>EK 3.2A2:</strong> When</td>
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BIG IDEA #4: SYNTHESIZE IDEAS

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

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

Enduring Understandings
(Students will understand that . . . )

EU 4.1: Scholarly works convey perspectives and demonstrate effective lines of reasoning that have been selected for the intended audience, purpose, and situation.

Learning Objectives
(Students will be skilled at . . . )

LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.

Essential Knowledge
(Students will know that . . . )

EK 4.1A1: Effective arguments use reason and evidence to convey a perspective, point of view, or some version of the truth that is stated or implied in the thesis and/or conclusion.

EK 4.1A2: Effective arguments are supported
and unified by carefully chosen and connected claims, reasons, and evidence.

**EK 4.1A3:** Qualifiers place limits on how far a claim may be carried. Effective arguments acknowledge these limits, increasing credibility by reducing overgeneralization or oversimplification.

**EK 4.1A4:** Effective arguments acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).

**EK 4.1A5:** The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.

**EK 4.1A6:** The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion).

**EK 4.1A7:** A line of reasoning is organized based on the argument’s purpose (e.g., to show causality, to evaluate, to define, to propose a solution).

**EK 4.1A8:** Claims and supporting evidence are arranged (e.g., spatially,
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<tr>
<th>LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.</th>
<th>EK 4.1A9: The same argument may be organized, arranged, or supported in multiple ways depending on audience and context.</th>
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<td>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.</td>
<td>EK 4.1A11: Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.</td>
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<td>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.</td>
<td>EK 4.1B1: Each discipline has its own conventions and ways of knowing, questioning, and communicating.</td>
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<td>EK 4.1B2: Scholars apply discipline-specific terminology in the analysis.</td>
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</table>
| EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale. | LO 4.2A: Interpreting, using, and synthesizing qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, non-print) to develop and support an argument. | EK 4.2A1: Evidence can be collected from print and non-print sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations). 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. 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
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<tr>
<th><strong>EU 4.3:</strong> Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.</th>
<th><strong>LO 4.3A:</strong> Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.</th>
<th><strong>EK 4.3A1:</strong> Accurate and ethical attribution enhances one’s credibility. <strong>EK 4.3A2:</strong> 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. <strong>EK 4.3A3:</strong> Source material should be introduced, integrated, or embedded into the text of an argument. <strong>EK 4.3A4:</strong> Quoted and paraphrased material must be properly attributed, credited, and cited following a style manual.</th>
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<tr>
<td><strong>LO 4.2B:</strong> Providing insightful and cogent commentary that links evidence with claims.</td>
<td><strong>K 4.2B1:</strong> 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).</td>
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<tr>
<td><strong>EK 4.2A4:</strong> The evidence selected and attributed contributes to establishing the credibility of one’s own argument.</td>
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**Quoting** is using the exact words of others; **paraphrasing** is restating an idea in one’s own words.

**EK 4.3A5:** Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).

**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).

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<tr>
<th>EU 4.4: Forming one’s own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.</th>
<th>LO 4.4A: Extending an idea, question, process, or product to innovate or create new understandings.</th>
<th>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.</th>
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<td>EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities, and consequences.</td>
<td>LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</td>
<td>EK 4.5A1: When proposing a solution, the advantages and disadvantages of the options and alternatives should be weighed against the goal within its context.</td>
</tr>
</tbody>
</table>
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 argument and oral presentations for different audiences and situations?
• 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 work?

<table>
<thead>
<tr>
<th>Enduring Understandings (Students will understand that…)</th>
<th>Learning Objectives (Students will be skilled at…)</th>
<th>Essential Knowledge (Students will know that…)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed and presented differently depending on</td>
<td>LO 5.1A: Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose.</td>
<td>EK 5.1A1: An argument may include the following elements: Introduction: engages the audience by providing background and/or context Thesis: conveys the main idea of an argument</td>
</tr>
</tbody>
</table>
| **EU 5.1[R]**: | **LO 5.1A[R]**: Planning and producing a cohesive academic paper, considering audience, context, and purpose. | **EK 5.1A1[R]**: Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:

**Introduction**: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and identifies the gap... |

| **LO 5.1A[R]**: Planning and producing a cohesive academic paper, considering audience, context, and purpose. | **EK 5.1A1[R]**: Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:

**Introduction**: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and identifies the gap... | **EU 5.1[R]**: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed and presented differently depending on audience, purpose, and context. |

| **Lo 5.1A[R]**: Planning and producing a cohesive academic paper, considering audience, context, and purpose. | **EK 5.1A1[R]**: Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:

**Introduction**: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and identifies the gap... | **EU 5.1[R]**: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed and presented differently depending on audience, purpose, and context. |

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**Introduction**: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and identifies the gap... |
in the current field of knowledge to be addressed

**Method, process, or approach:** explains and provides justification for the chosen method, process, or approach

**Results, Product, or Findings:** presents the results, product, evidence, or findings

**Discussion, Analysis, and/or Evaluation:** interprets the significance of the results, product, or findings; explores connections to original research question/project goal; discusses the implications and limitations of the research or creative work

**Conclusion and Future Directions:** reflects on the process and how this project could impact the field; discusses possible next steps

**Bibliography:** provides a complete list of sources cited and consulted in the appropriate disciplinary style.

<table>
<thead>
<tr>
<th>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</th>
<th>EK 5.1B1: A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EK 5.1B2: Effective sentences create variety,</td>
<td></td>
</tr>
<tr>
<td>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</td>
<td>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. <strong>EK 5.1C2:</strong> Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation. <strong>EK 5.1C3:</strong> Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary,</td>
</tr>
<tr>
<td>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</td>
<td>EK 5.1D1: Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose. <strong>EK 5.1D2:</strong> 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.</td>
</tr>
</tbody>
</table>
| LO 5.1E: Engaging an audience by employing effective techniques of delivery or performance. | EK 5.1E1: Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, **vocal variety**, energy) to emphasize information, convey tone, and engage their audience. **EK 5.1E2:** Scholars present, perform, and/or produce their work in multiple ways. This may take discipline-specific forms (e.g., portfolios, exhibits, performances, showcases, premieres, posters), but may also cross disciplinary boundaries. **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>| LO 5.1F: Defending inquiry choices and final product with clarity, consistency, and conviction. | EK 5.1F1: Scholars effectively articulate the rationale for inquiry choices in relation to the completed work. EK 5.1F2: Scholars engage thoughtfully with their audiences’ critiques and questions. |
| LO 5.2A: Providing individual contributions to overall collaborative effort to accomplish a task or goal. | EK 5.2A1: Knowing and communicating one’s strengths and challenges to a group allows one’s contributions to be more effective. |
| LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems. | EK 5.2B1: Teams are built around tasks. Low-risk teambuilding activities and simulations enhance a team’s performance. EK 5.2B2: Teams function at their best when they understand the diversity of their social-cultural perspectives, talents, and skills. EK 5.2B3: Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation. EK 5.2B4: Effective teams consider the use of online... |
| EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications. | LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes. | EK 5.3A1: Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation. EK 5.3A2: Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting. EK 5.3A3: Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation. EK 5.3A4: Scholars reflect on how the inquiry process helped them deepen their understanding, make important connections, and develop greater self-direction. |
| LO 5.3B: Reflecting on experiences of collaborative effort. | EK 5.3B1: Reflection acknowledges the impact of actions on both the group and individual contributions, noting the reasons for such actions, assumptions made, and whether or not such actions and assumptions hindered or enhanced participation and outcomes. |</p>
<table>
<thead>
<tr>
<th>LO 5.3C: Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work.</th>
<th>EK 5.3C1: Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work.</th>
<th>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.</th>
</tr>
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<tr>
<td>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.</td>
<td>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.</td>
<td>EK 5.3A1: Peer review should be based on guidelines and defined criteria appropriate to the work.</td>
</tr>
<tr>
<td>LO 5.4B: Engaging in peer review to receive and consider responses to their work.</td>
<td>EK 5.3B1: Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work. EK 5.3B1: Communities of scholars produce, present, and perform effectively</td>
<td></td>
</tr>
</tbody>
</table>
CONSEQUENCES FOR PLAGIARISM AND THE FALSIFICATION OR FABRICATION OF INFORMATION

Students shall 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.

Discussion and Assignment related to Ethical Research Practices

Students will review the College Board Plagiarism Policy, as well as the Plagiarism Policy set out in the Student Handbook for White Station High School. Students will receive lecture notes on the ethical use of intellectual property in research. Students will complete exercises to practice the rules and protocols that apply to avoiding plagiarism. Students will review multiple versions of material created from an original source to determine to what extent the rules and protocols relating to plagiarism have been broken. Students will be directed to OWL at Purdue as a resource for appropriate citation in research.

Link:
https://owl.purdue.edu/owl/purdue_owl.html
https://owl.purdue.edu/owl/research_and_citation/resources.html
HONOR CODE:
Academic integrity is the critical foundation and integral standard of academic research. Your work process and product must meet the highest standard of academic integrity. You will be expected to sign an honor code on all pieces of work submitted for assessment/credit/grading/review.

If the assignment is handwritten, please hand-write and sign the following honor code pledge:

“HONOR CODE PLEDGE:
On my honor, I have not given, nor received, nor witnessed any unauthorized assistance on this work.”

If the assignment is submitted electronically, please type the honor code at the end of the assignment. Inclusion of the honor code implies signature and agreement of the pledge.

PLANNING AHEAD HELPS TO AVOID PLAGIARISM
AP Capstone students will be held to a high standard of academic honesty and ethics. Preparing fairly and effectively for the completion of the paper and presentation tasks requires advanced planning and time management. Many difficulties with plagiarism arise when students leave work to the last minute. Students are advised to create a system to keep track of all the sources they use to ensure they do not mis-attribute information or omit providing a citation for an idea that is not originally their own. As an additional safeguard against plagiarism, Advanced Placement Research work—even the drafts—will be submitted to Turnitin.com.

THE INQUIRY PROPOSAL FORM
Once students have selected a research topic or issue and drafted a research question and proposal, they will complete and submit an inquiry proposal form, which sets out the parameters of their research, including the method of data collection, the duration of the research, and the proposed sample pool. Students’ research proposals will be vetted for potential risk or harm to human and animal subjects, as prescribed by the U.S. Department of Health and Human Resources. Students will receive instruction on ethical research practices during the course.

THE INSTITUTIONAL REVIEW BOARD (IRB)
Research proposals involving human subjects must be reviewed and approved by an institutional review board (IRB) before experimentation begins. According to federal regulations (45-CFR-46), an IRB must evaluate the potential physical and/or psychological risk of research involving humans. This includes review of any surveys or
questionnaires to be used in a project. Although AP Research papers may generally be exempt from IRB review and approval, **ALL students in AP Research will be required to submit the details of their research proposal for IRB review and approval by 30 September, 2020.** Students will be guided through the IRB process and will be expected to engage in the process with the utmost seriousness and professionalism. Students will receive feedback from the IRB and will be expected to adhere to or incorporate the IRB feedback **before final approval is granted for the research.** Each student will sign up for an individual conference with Ms. Lawrence in the week 6-10 September, 2020 to review the Individual Research Proposal and required approvals.

**THE PROCESS AND REFLECTION PORTFOLIO (PREP)**

Throughout the duration of the course, students will compile a Process and Reflection Portfolio (PREP). The purpose of the PREP is to inspire, support, and document students’ development as they investigate their research questions, thereby providing evidence that they have engaged in a sustained effort during the entire inquiry process.

The PREP will be maintained by the student as evidence of participating in research to show to academic counselors, college admission officers, faculty members, and prospective Capstone students. The PREP will be reviewed throughout the year and entries will be graded as a formative assessment component of the course. The final PREP binder will be assembled and graded as a summative assessment grade for the course.

**MAINTAINING THE PREP BINDER**

Throughout the inquiry process, students will document their research or artistic processes, communication with their expert advisers, and reflections on their thought processes. Students will also engage in self-reflection to examine their strengths and weaknesses with regard to implementing the research or artistic processes and developing their arguments or aesthetic rationales. Students will respond to specific questions for reflection (including essential questions relating to QUEST) and complete assigned tasks to help them examine their chosen areas of research and the processes by which they engage in their research.

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

- The choice of the research question and interest in the subject matter
- The research process, including resources (documents, people, multimedia); analysis of evidence; directions in which the inquiry or project seems to lead; changes to initial assumptions
• The ways in which the student has worked both on his/her own and as part of a larger community
• The challenges and solutions, including a record of individual discussions or interviews with the teacher to help the student reflect on and document the progress of his/her work, and the organization of his/her time to reach appropriate milestones.

The PREP should be used to inform regular progress reviews throughout the year. The PREP will be maintained as a hard-copy binder, with artifacts printed and stored in the binder and visible for grading on demand. Students should have their current PREP binder with them whenever they attend class. Items stored in the PREP binder should be in date order from back to front.

THE FINAL PREP BINDER
Students will participate in an exit interview and submit a final form of the PREP for a grade the week of 19-23 April, 2021. The final PREP binder will include:

1. Student’s Name, Section, Table of contents
2. Completed and approved Inquiry Proposal Form
3. Specific pieces of work selected by the student to represent what he or she considers the best showcase for his or her work. Examples might include:
   • In-class (teacher-directed) free writing about the inquiry process
   • Resource list
   • Annotated bibliography of any source important to the student’s work
   • Photographs, charts, spreadsheets, and/or links to videos or other relevant visual research/project artifacts
   • Draft versions of selected sections of the academic paper
   • Notes in preparation for presentation and oral defense
4. Documentation of permission(s) received from primary sources, if required — for example, permission(s) from an IRB or other agreements with individuals, institutions, or organizations that provide primary and private data such as interviews, surveys, or investigations
5. Documentation or log of the student’s interaction with expert adviser(s) and the role the expert adviser(s) played in the student’s learning and inquiry process (e.g., What areas of expertise did the expert adviser have that the student needed to draw from? Did the student get the help he or she needed — and if not, what did he or she do to ensure that the research process was successful? Which avenues of exploration did the expert adviser help the student to discover?)
6. Questions asked to and feedback received from peer and adult reviewers both in the initial stages and at key points along the way
7. Reflection on whether or not the feedback was accepted or rejected and why
8. Attestation signed by the student, which states:

“I hereby affirm that the work contained in this Process and Reflection Portfolio is
my own and that I have read and understand the AP Capstone™ Policy on
Plagiarism and Falsification or Fabrication of Information.”

Students should carefully follow directions for assembling the final PREP binder
to maximize their final grade.

THE AP RESEARCH PERFORMANCE TASK OVERVIEW
Students are assessed with one through-course performance task consisting of two
distinct components. Both components will be included in the calculation of students’
final AP scores.

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

AP Research Through-Course Performance Task
Weight: The combined Academic Paper and Presentation and Oral Defense constitutes
100% of the AP Research Score.

Submission Deadline: 30 APRIL, 2021, 11:59pm (ET) [TO BE CONFIRMED]
Note: 30 April, 2020 is the deadline by which all products must be submitted to the
College Board. Students will submit final papers to Turnitin and then to the Digital
Portfolio on Monday, 26 April, 2021. [TO BE CONFIRMED]

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

ASSESSMENT COMPONENTS:
The following components are formally assessed:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SCORING METHOD</th>
<th>WEIGHT</th>
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</table>
### Academic Paper (AP)

- **4,000–5,000 words**
  - *NOTE: Graphs, data tables, images, appendices, abstract, and the bibliography are not part of the total word count for the academic paper.*

### Presentation and Oral Defense (POD)

- **(15–20 minutes total for presentation followed by three or four questions from a panel of three evaluators).**

### Rubric Scored by College Board (individual score)

75%

### Rubric Scored by teacher (individual score)

25%

---

**TASK GUIDELINES**

Students develop a research question/project goal on a topic of their own choosing in an area of personal interest. They submit an inquiry proposal to the teacher for feedback and approval. Students continue to refine their research questions/project goals. Once the inquiry proposal is approved, students begin their background research (i.e., review of previous scholarship) on their topic.

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

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

**Academic Paper (AP) [updated for 2020]**

The academic paper must contain the elements listed in the following table. These elements should be presented in a style and structure appropriate to the discipline in which the topic resides (e.g., psychology, science, music).
<table>
<thead>
<tr>
<th>Required Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. Introduction and Literature Review  | - Introduces research question/project goal and reviews previous work in the field  
- Synthesizes the varying perspectives in the scholarly literature related to the research question/project goal  
- Identifies the gap in the current field of knowledge to be addressed |
| 2. Method, Process, or Approach        | - Explains and provides justification for the chosen method, process, or approach                                                          |
| 3. Results, Product, or Findings       | - Presents the findings, evidence, results, or product                                                                                     |
| 4. Discussion, Analysis 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                                                           |
| 5. Conclusion and Future Directions    | - Reflects on the process and how this project could impact the field. Discusses possible next steps                                           |
| 6. Bibliography                        | - Provides a complete list of sources cited and consulted in the appropriate disciplinary style                                               |

NOTE: Deactivate ALL live links in your document before submission.

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

Students must avoid plagiarism by acknowledging, attributing, and/or citing sources throughout the paper and by including a bibliography. Students must also observe ethical practices when gathering information through such platforms as interviews or discussions, and be prepared to sign agreements with individuals, institutions, or organizations that provide primary and private data. Students should also be prepared to obtain institutional review board (IRB) approval prior to engaging in research involving human subjects.

Presentation and Oral Defense (POD)
NOTE: The College Board has updated the Oral Defense Questions for the Academic Year 2020. Please see the updated Course and Exam Description for AP Research 2020.

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

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

Students may choose any appropriate format for their presentation as long as the presentation reflects the depth of their research.

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

After the presentation, each student will defend his or her argument/aesthetic rationale or design choices, inquiry process, use of evidence or discipline-specific information, analysis, evaluation, and conclusions through oral responses to three or four questions posed by the oral defense panel. Three of these questions will be chosen from the oral defense question list (provided in the AP Research Course and Exam Description), provided to students in advance. The presentation and oral defense should take no longer than 15–20 minutes total. A full description of the types of questions that may be asked by the review panel and the composition of the panel is set out in the AP Research Course and Exam Description, a copy of which is attached to this syllabus.

Student will have time to practice their presentation and will participate in peer feedback for their presentations prior to the final assessment. Throughout the course, students will receive guidance on presentation guidelines including best practices for delivering information (e.g., vocal and movement techniques, use of multimedia or visual aids).

THE ROLE OF THE TEACHER AND THE ROLE OF THE EXPERT ADVISER
Because the AP Research Assessment takes place over the course of the year-long class,
it is important to be clear about the role and responsibilities of the teacher and the expert adviser in the course. The AP Research Course and Exam Description offers detailed information about the role of the teacher and the expert adviser. Students should familiarize themselves with these rules and let the teacher know if they have any questions about them. A student should never refrain from asking for assistance because they think that a rule is restrictive; instead, the student should ask for clarification of the rule to ensure that he or she is able to receive the guidance he/she needs to be successful in the course.

WHAT DOES SUCCESS IN AP RESEARCH LOOK LIKE?

While the end-goal for the course is certainly to achieve a high-scoring AP Grade and obtain the AP Capstone Certificate, the process of learning in this course is deeply valuable for your future as an academic and as a citizen.

Because the course is structured like a college-level class, the onus is on the student to ensure that he or she is meeting requirements and deadlines as specified by the College Board and in this syllabus. It is imperative that students do not allow themselves to fall behind in the research process. The scheduling of the course is very intense and students will need to bring a positive attitude to class each day. Student will need to actively participate in class discussions, ask lots of questions, and use the time in class wisely and purposefully to complete all of the requirements of the course. Outside of class, students will need to dedicate time to think and process their learning, to read and prepare for activities in class, and to gather data and conduct research that is critical to their area of inquiry. Students will be penalized in their participation grades if they are chronically tardy or absent without excuse, if they are not sufficiently prepared to learn, or miss deadlines, or fail to submit a work product. If a student has a question about a skill that has been covered or wishes to have a concept clarified, he/she can write a question and place the question in the parking lot. Mini-lessons or tutorials will be prepared to respond to such questions, so that the whole class may benefit from the additional instruction or clarification.

Conduct of Participants

As the AP Research course engages students in college-level work, students may include topics and perspectives that may be considered controversial, including references to ethnicity, nationality, religion, politics, race, dialect, sexuality, gender, or class. AP Research requires students to have a level of maturity and skill to thoughtfully consider and analyze diverse perspectives and to listen to and respect the opposing or differing positions of other students in the class. The inclusion of topics, readings, texts, and other source material is not intended as an endorsement by the teacher or the College Board of the content, ideas, or values expressed in the material.
THE AP RESEARCH SYMPOSIUM
Following the submission of the academic paper and oral presentation and defense, AP Research students will reflect on the learning they acquired throughout the course and they will participate in a symposium to share the process of their learning and the product of their work with students, faculty and members of the community.

SUMMARY OF EVALUATION AND GRADING

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Formative Assessment</th>
<th>Purpose</th>
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</table>
| SEM 1    | - Rubric and Evaluation of Papers  
- Annotated Bibliography I: Topic of Inquiry  
  Background  
- Focused Topic of Inquiry  
- Peer Review of Research Questions  
- Finalization of Research Question and Purpose of Inquiry  
- Annotated Bibliography II: Discipline-Specific Style with Literature Review  
- Annotated Bibliography III: Inquiry Methods of the Field of Study  
- Poster Presentation of Research Proposal  
  Inquiry Method Design | - Apply assessment rubric components for the academic paper to sample student papers and identify the different levels of achievement evidenced in those samples.  
- Effectively search for and identify a broad range of perspectives and scholarly sources of information for the chosen field of study.  
- Exhibit knowledge of the field of interest and develop a narrow, novel, researchable problem, topic, or idea.  
- Differentiate between well- and poorly formed research questions, and offer/receive feedback on research question drafts.  
- Develop a clearly articulated research question that is capable of being researched at this level and clearly articulate the purpose/goals of the inquiry.  
- Perform an in-depth literature review that outlines the scholarly source materials used and how the materials offer information and views relating to the question.  
- Demonstrate comprehensiveness of the literature review as exhibited by breadth, relevance, currency, availability, and authority within chosen resources, using the discipline-specific style common to the field of study.  
- Identify the research question, variables, measurements, and limitations within |
| SEM 2 | - Biweekly Work in Progress Interview  
- Biweekly Peer Review  
- Practice Presentations  
- Peer Panels  
- Process and Reflection Portfolio: Exit Interview | - Effectively articulate the focused topic of inquiry, research question, overview of the knowledge of the field, gap the chosen inquiry fills, and selected or designed method of inquiry to collect data to address research question or inquiry topic.  
- Describe procedures used for analysis in sufficient detail to permit understanding of how the data were analyzed and the processes and assumptions underlying specific techniques.  
- Evaluate the fit between the purpose of the proposal, its research design, and its data collection strategy.  
- Exhibit regular maintenance of a research portfolio to record revisions, amendments, and reflections during the inquiry process.  
- Prepare and periodically update timetable or project plan that clearly outlines what activities must be accomplished and the deadlines by which the objectives of the course must be achieved.  
- Review and revise the elements of the academic paper with attention paid to the purpose, research question, and research method to ensure clarity and alignment and to address peer, teacher, and expert adviser feedback.  
- Exhibit polished articulation and effective presentation of the inquiry performed.  
- Exhibit depth of knowledge of topic of inquiry and articulation of choices made in design and interpretation/synthesis of evidence through the research project through responses to feedback and |
Assessment: All assessments, unless otherwise stated, will be scored using the AP Research Assessment Rubric, as published by the College Board and attached to this syllabus. Rubric scores will be converted into a numeric score/letter grade as follows:

Grading Scale and Rubric to Point-Grade Conversion:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Standard based score</th>
<th>AP Research Academic Paper Rubric (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>92</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>80</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>70</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

Student Evaluation:
The class grade will be comprised of several components:

1. Practice with applying the rubric to sample papers. Through regular practice and assessment, students will become increasingly familiar with the expectations of the rubric and what a high-performing academic paper looks like. Students will also work with the presentation rubric to develop their confidence and proficiency with speaking and presenting.

2. Practice with components of the academic paper. Through purposeful practice and assessment, students will develop the skills necessary to contextualize, select, and narrow a research topic and question, assess the usefulness and credibility of a source, draft a literature review, identify and discuss the appropriateness of various research methods, and explain a new understanding or conclusion through the logical progression of inquiry choices. Students will review the AP Research rubric for this recurring assignment and will be expected to improve in their mastery of the skills set out on the rubric as the year progresses. Rubric scores will be converted to a traditional letter grade score.

3. Annotated skills. Students will be expected to develop a close reading strategy for annotating articles that are assigned for reading. Students will seek to develop their ability to identify the components of argument and research. Students will be assigned a grade for annotations, as advised.
4. Projects, Papers, and Annotated Bibliographies. Students will complete several projects and papers that are designed to give them practice with carrying out the actual AP performance task. Students will familiarize themselves with the rubrics for these assignments and will be expected to improve in their mastery of the skills set out on the rubric as the year progresses. Rubric scores will be converted to a traditional letter grade score.

5. Participation. Students will receive a weekly participation grade. Students are expected to come prepared to actively and substantively participate in classroom discussions. Further, it is critical that students engage in and participate fully in all tasks, including reading comprehension activities, reflections, taking research notes, rewriting and revising drafts, peer review, whole group and small group discussion, and student-teacher conference sessions. Participation scores will be awarded on a scale to reflect depth and frequency of engagement. When preparing for classroom discussion, the following questions can help to guide your reading:
   - What is the argument being made?
   - What perspective is represented in this argument?
   - How does this reading connect to something else I have read or how does it address a gap in something else I have read?
   - What new understanding have I garnered after reading this text? How does this text support a new understanding about a topic?
   - What observations can I make about how the author went about proving his or her argument? What are the limitations/implications of the method(s) chosen?

Participation Grade Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (9-10)</td>
<td>100</td>
<td>Highly and Consistently Engaged Participant – Perfect or near perfect attendance (no tardies), insightful questions and comments based on a familiarity with the resources and time spent in preparation, attempts to introduce other relevant material to the discussion</td>
</tr>
<tr>
<td>B (7-8)</td>
<td>92</td>
<td>Consistently Engaged Participant – Good attendance, thoughtful questions and comments based on a familiarity with the resources and time spent in preparation</td>
</tr>
<tr>
<td>C (5-6)</td>
<td>80</td>
<td>Occasionally Engaged Participant – Regular attendance, sporadic involvement in discussions that is often based on personal opinion, rather than analysis of resources</td>
</tr>
<tr>
<td>D (3-4)</td>
<td>70</td>
<td>Observer. Regular attendance, but does not engage in or contribute to discussion with any interest.</td>
</tr>
<tr>
<td>F (1-2)</td>
<td>60</td>
<td>Absent too often to count for a participation grade.</td>
</tr>
</tbody>
</table>
### Annotation Grade Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (3)(100)</td>
<td>100</td>
<td>The annotations clearly support the purpose for reading. The written comments on the text clearly show that the student is engaged with the text and has connected ideas in the text to their own thinking and to other texts. (at least 3 per page)</td>
</tr>
<tr>
<td>B (2)(92)</td>
<td>92</td>
<td>The annotations sufficiently support the purpose for reading. The written comments on the text show sufficient evidence that the student is engaged with the text and has connected ideas in the text to their own thinking and to other texts. (at least 2 per page)</td>
</tr>
<tr>
<td>C (1)(80)</td>
<td>80</td>
<td>The annotations adequately support the purpose for reading. The written comments on the text show adequate evidence that the student is engaged with the text and has connected ideas in the text to their own thinking and to other texts. (at least 1 per page)</td>
</tr>
<tr>
<td>D (0)(70)</td>
<td>70</td>
<td>The annotations barely (inadequately) support the purpose for reading. The written comments on the text show minimum evidence that the student is engaged with the text and has connected ideas in the text to their own thinking and to other texts. (Some pages not annotated.)</td>
</tr>
<tr>
<td>F (NS)(60)</td>
<td>60</td>
<td>No Assignment Submitted</td>
</tr>
</tbody>
</table>

### THE SUMMER ASSSIGNMENT

**2020-21 LAWRENCE AP RESEARCH REQUIRED READING AND ASSIGNMENTS**

**PART A**

Consider (make notes to respond to) the following questions:
1. What topic would you like to research in your senior year?
2. What question within this topic would you like to answer?
3. What is the purpose of answering this question or solving this problem?
4. How will your argument be structured? (inductive/deductive?)
5. How will you collect data for your research? (experiment? review? survey? - online or face to face?)
6. Over what time period will you conduct your research?
7. Who will participate in the data pool?
8. What are the seminal texts that you should have read prior to commencing your research?
9. What gap will your research address? (What new direction will your research go in?)

**PART B**

**REQUIRED READING AND SUMMER WRITING ASSIGNMENT:**

By the first day of the Quarter 1, you should have read *Innumeracy* by John Allen Paulos (see below) and your first choice book (see below list).
By the first day back from Fall Break, you should have read your second choice book. By the first day back from Thanksgiving Break, you should have read your choice of translated text.

1. Required Text (Non-Fiction) *Innumeracy* – John Allen Paulos

2. Choice Reading Options (Select THREE from one area of interest. One of the three texts must be a translated text.)

*Climate Justice and National Security*
High Tide on Main Street – John Englander
How Safe are We? – Janet Napolitano
Silent Spring – Rachel Carson
Code Girls – Liza Mundy
Hidden Figures – Margot Lee Shetterly
Dandelion Wine – Ray Bradbury (fiction)
What the Eyes Don’t See – Mona Hanna Attisha
*Memoirs of a Polar Bear* – Yoko Tawanda (fiction – translated text)

*Education and Social Justice*
The Myth of Equality – Ken Wystma
Just Mercy – Bryan Stevenson
The New Jim Crow – Micelle Alexander
In the Time of the Butterflies – Julia Alvarez
Born a Crime – Trevor Noah
Negroland – Margot Jefferson
Educated – Tara Westover
A Room of One’s Own – Virginia Woolf
The Color of Water – James McBride
Between the World and Me – Ta-Nahesi Coates
The Glass Castle – Jeanette Walls
I Know Why the Caged Bird Sings – Maya Angelou
*Leaf Storm* – Gabriel García Márquez (fiction – translated text)

*Immigration and Exile*
Waiting for Snow in Havana – Carlos Eire
Americans in Waiting – Hiroshi Motomura
The Wind Doesn’t Need A Passport – Tyche Hendricks
Tell Me How It Ends – Valeria Luiselli
Enrique’s Journey – Sonia Nazario
Dreaming in Cuban – Cristina García
Before We Were Free – Julia Alvarez
*The Little Prince* – Antoine de Saint-Exupéry (fiction – translated text)

*Living Consciously*
Animal, Vegetable, Mirroracle – Barbara Kingsolver
READING INSTRUCTIONS
Assignment for Innumeracy AND First Choice Text (if NON-FICTION)

For each text, prepare typed written responses to the following questions, to be submitted in the first week of school:
(a) What is the thesis/argument of the book?
(b) How is the text structured?
(c) How does the author prove his or her argument? (What reasons are given? What evidence is used to back up those reasons? Evaluate the evidence: is it reliable/credible?)
(d) Assess the author’s credibility. Consider the author’s qualifications, the extent and quality of the research (empirical versus anecdotal), the intended audience, reported reviews or criticisms of the book, etc. (believability if fiction)
(e) What are the implications and limitations of the author’s argument?
(f) Select five quotes from the book that stand out to you and provide a personal comment or response to each quote.

If your first choice text is a FICTION TEXT Prepare typed written responses to the following questions to be submitted in the first week of school:
(a) What is the central idea of the text?
(b) How is the text structured? (consider setting, characters, conflict, plot, and theme)
(c) How does the author support the central idea/purpose of the text? (Give examples of specific writing or literary choices made by the author and the effectiveness of those choices in advancing the purpose of the writing.)
(d) Write a short summary of the author’s life (5 sentences). One of your sentences should address the author’s inspiration for writing this story.
(e) Are the events in the story based on true life? How realistic are the events? What real life event or news story tells a similar scenario.
(f) Select five quotes from the book that stand out to you and provide a personal comment or response to each quote.

ALL Work should be type written and presented in MLA Format:
1. Heading on first page/ no cover sheet required
2. Number pages
3. Margins = 1-inch
4. Font = Times New Roman, 12 point
5. Spacing = double-spaced
6. Quotes should be clearly and accurately cited in text. All quotes should be thoroughly explained and should clearly and directly support the answer provided.
7. Clearly label and number each question and the response. Please cut and paste the question. Please use complete sentences in your responses.
8. Please refer to Owl at Purdue (https://owl.purdue.edu/owl/research_and_citation/mla_style/mla_formatting_and_style_guide/mla_general_format.html) for formatting questions.
9. Please hand-write, then sign and date the following honor code at the end of your document:
   “I have read and understand the College Board’s Policy on Plagiarism. I confirm that the above work is my own, and I have not sought or received any assistance that would contravene the College Board’s Policy on Plagiarism during the production of this assignment.”

THE COLLEGE BOARD’S POLICY ON PLAGIARISM (EXCERPT. The full statement is included in the AP Research Course and Exam Description.)

“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...”

COURSE SUPPLIES (REQUIRED)

COURSE TEXTBOOK (REFERENCE) Required Text (to be purchased before the start of the school year)(The paperback is currently $14.69 on Amazon.):
Student’s Guide to Writing College Papers – Kate L. Turabian

You will also need:
- a supply of paper
- a supply of writing materials and post-its
- a portfolio binder to store printed material
- dividers to organize paper
- a charged laptop (available at school)
- access to a printer (available at school

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STRUCTURE OF THE COURSE

The AP Research Course is divided into 2 semesters (SEM1, SEM2), which are further divided into quarters (Q1, Q2, Q3, Q4). Work completed on the AP Research course will track the calendar month: September, October, etc.

Preparation for research writing is completed in SEM1. By the end of SEM1, students will have designed and finalized their research question, completed background reading, selected texts and methods to support their research, completed a research proposal and obtained IRB approval, completed annotated bibliographies and a draft literature review, and created a plan for how they will conduct their research, including finalizing the method and duration of the research. During SEM2, students will carry out their research, conduct the drafting and revision process for their paper, finalize the paper, develop their presentations, provide and accept peer feedback on their presentations and paper, complete the AP Research Performance Task, submit their final research paper to the Digital Portfolio, and participate in the AP Research Symposium. The final deadline for the submission of all assessed materials is 30 April 2019. This is a fixed deadline set by the College Board and cannot be extended or negotiated.

Curriculum Map and Pacing Guide (subject to revision)

<table>
<thead>
<tr>
<th>SEM 1</th>
<th>QRTR</th>
<th>Date Range</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>August - October</td>
<td>1. INTRODUCTION TO THE RESEARCH PROCESS AND WRITING: BRIDGING THE CURRICULUM FROM SEMINAR TO RESEARCH; DEVELOPING A RESEARCH QUESTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>September</td>
<td>2. MOVING FROM RESEARCH TOPIC TO RESEARCH PROPOSAL: CONTINUING BACKGROUND READING; REFINING THE RESEARCH QUESTION</td>
</tr>
</tbody>
</table>
| Q2 — 21 October, 2019 to 20 December, 2019 | October - December | 3. REFINING THE RESEARCH APPROACH AND METHOD: THE LIT REVIEW; KEEPING THE BIG PICTURE IN MIND
Definitions, Assumptions, Hypotheses. Delineating the difference between assumptions and hypotheses. The importance of definitions in research. Presenting where you are on the QUEST. Contextualizing QUEST with a Literature Review. Revisit Annotated Bibliography. |
Aligning the inquiry approach, design, and method. Choosing and defending an inquiry approach. Organize and discuss results of method. Ethical research practices. IRB application and approval. |
| SEM 2 |  | 5. BUILDING THE ACADEMIC PAPER: DRAFTING COMPONENTS; MAXIMIZING THE BENEFIT OF PEER REVIEWS IN THE FEEDBACK PROCESS; PREPARING FOR THE PRESENTATION AND ORAL DEFENSE
First draft of components of academic paper. Conducting research. Drafting, feedback, revision, feedback, edit, design presentation, feedback, practice presentations, feedback, prep oral defense questions. |
Assessment. Presentation. Final paper uploaded to Digital Portfolio. Final scores for |
presentation and oral defense uploaded.

7. WHAT HAPPENS AFTER RESEARCH?
May: AP Research Symposium

<table>
<thead>
<tr>
<th>FORMATIVE ASSESSMENT OUTLINE [TO BE CONFIRMED]</th>
</tr>
</thead>
<tbody>
<tr>
<td>The development of the academic paper and preparation for the presentation and oral defense will cover the following matters:</td>
</tr>
</tbody>
</table>

**SEM1**

**August**
1. Introduction to AP Research: bridging the gap from AP Seminar, meeting the expectations of the AP Research rubric and assessment
2. Joining the Conversation, Developing a Research Question, Mini-Presentations

**September**
3. Working with Resources (A closer look at Methods and Style, Tracking Resources, Avoiding Plagiarism), Mini-Presentations
4. Reading around the Body of Knowledge, Selecting Sources, Determining Method, Mini-Presentations

**October/November/December**
5. The Structure and Design of the Research, Planning the Academic Paper
6. Drafting the Lit Review
7. Submitting the Research Proposal/Completing the IRB Application
   *Research Proposal/IRB Application must be submitted by **30 September 2020**.
   **Research Proposal/IRB Application approval returned by **16 December 2020**.

**SEM2**

**January-March**
7. Collecting Information/Data
8. Drafting the Academic Paper
9. Documenting Sources
10. Peer Review and Feedback, Revise and Edit Paper

**April**
11. Submit Final Paper, Final Presentation and Oral Defense

**May**
*12. AP Research Symposium, Submission of Final PREP binder and Exit Interview

A NOTE ABOUT INDIVIDUAL RESPONSIBILITY IN AP RESEARCH
It is imperative that students note that the lessons and activities that are set out below are designed to deliver the skills needed to conduct individual research; however, none of the activities or assessments are intended to be direct feedback on individual research. It is therefore critical that students understand that they are to take the skills learned and apply those skills to their individual research. This means that students will have to track and develop their own ideas for research parallel to what they learn in class. It will be
necessary for students to read and research intensively both in class and outside of class (independently). The Narrative section of the pacing guide (below) is intended to let students know what their individual responsibilities include as the class progresses through the learning units. Students must take care of their individual responsibilities in order to stay on task in the assessment and meet required deadlines. Students will conference in groups and individually with the teacher as a way to assess their progress as they work to prepare the academic paper and oral defense.

THE PARKING LOT:
Students are advised that if they are struggling to implement a skill or need clarification (either individually or as a group) on how to complete a task, they can post questions to the classroom Parking Lot. This reserved area will help the teacher to address outstanding issues and give instruction as a group or individually as students may require. Students must ask questions in this course in order to succeed. Oftentimes, multiple students will have the same/similar question, or struggle with the same/similar issue. A response to a question might help multiple students, which strengthens our learning community. So, please do not hesitate to ask questions in class.

UNIT 1- INTRODUCTION TO THE RESEARCH PROCESS AND WRITING:
BRIDGING THE CURRICULUM FROM SEMINAR TO RESEARCH;
DEVELOPING A RESEARCH QUESTION

| AUGUST | 1. Introduction to AP Research: bridging the gap from AP Seminar, meeting the expectations of the AP Research rubric and assessment |
|        | 2. Joining the Conversation, Developing a Research Question, Mini-Presentations |
| NARRATIVE | By the end of this Unit, students should have: |
| | - read around their subject/topic area (This includes completing the summer reading and writing assignment.) |
| | - made notes and brainstormed about possible research questions |
| | - begun to narrow down research ideas and formulated a draft research question |
| | - familiarized themselves with the academic paper rubric and structure of sample paper |
| | - researched their discipline specific style by reading papers in the context area |
| | - searched on EBSCO and Google Scholar for as many strong pieces of research in the area of inquiry as possible (10 minimum) |
| | - compiled an annotated bibliography section of the PREP binder to track the pieces they are reading and to show how the pieces are |
| MINI-LESSONS | Bridging the gap from Seminar to Research:
What is Research? What do you expect to be doing on this course? (Syllabus)
The Assessment: The Components of the Academic Paper (15)
Reviewing Proficiencies (16) Self-Assessment on the Quest. (21 + Rubrics)
The PREP Folder:
Purpose and Items (Syllabus and 27)
How will I record/log my research? Organizing the PREP binder. The Final PREP binder.
What is the role of the expert adviser? (AP Course Description) (34)(38)
What is the role of the teacher? (34)(38)
A discipline-specific approach (method) (42)(44)(45)
**Developing a Research Question (B11)**
Developing and Revising a Research Question (54)(56 )[57]
Drafting a Problem Statement:
Transforming a Topic/Issue into a Problem (58)
The Six Criteria for a Research Proposal (60)(61)
**Initial Searches and Annotated Bibliographies (64)(B12)**
Choosing a Discipline Specific Style (MLA, APA, Chicago, etc.) (65)
Avoiding Plagiarism (Syllabus and Turabian, Chapters 10 and 17)
Building a Bibliography as you write (68) (EBSCO, Google Scholar)
Crafting an Annotated Bibliography (69)(79) |
| READING REFERENCES | AP Research Syllabus and AP Research Rubric
AP Research Sample Paper(s)
Turabian, Chapter 1: “What Researchers Do and How They Think About It”
Turabian, Chapter 2: “Finding a Research Question”
Turabian, Chapter 10: “Preventing Plagiarism”
Turabian, Chapter 17: “Citing Sources”
Palmquist, *The Bedford Researcher*: Chapters 1-8 |
Various books, book excerpts, articles, podcasts, media
Websites (Discipline-Specific Ways of Knowing):
History:
Science/Math:
Humanities:
http://shc.stanford.edu/how-humanities-research-conducted
https://lcst3789.files.wordpress.com/2012/01/pickering_ed__research_methods_in_cultural_studies.pdf
The Creative Arts:
General Information: https://blog.collegevine.com/how-to-choose-a-project-for-your-ap-research-course/

<table>
<thead>
<tr>
<th>PREP ASSESSMENT ITEMS</th>
<th>Annotated Syllabus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annotated Rubric</td>
</tr>
<tr>
<td></td>
<td>Annotated Sample Paper</td>
</tr>
<tr>
<td></td>
<td>Self-Assessment on the Rubric (Reflect)</td>
</tr>
<tr>
<td>44 – Discipline Specific Ways of Knowing (Responses)</td>
<td></td>
</tr>
<tr>
<td>45 – Discipline Specific Ways of Knowing (Group Work/Poster Presentation)</td>
<td></td>
</tr>
<tr>
<td>54 – Developing a Research Question</td>
<td></td>
</tr>
<tr>
<td>58 – Draft Problem Statement</td>
<td></td>
</tr>
<tr>
<td>60 – The Six Criteria for a Research Question (Practice)</td>
<td></td>
</tr>
<tr>
<td>64 – The Annotated Bibliography (Practice)</td>
<td></td>
</tr>
<tr>
<td>65 – Choosing a Discipline Specific Style (Group Work/Presentation)</td>
<td></td>
</tr>
<tr>
<td>69 – Annotated Bibliography Practice</td>
<td></td>
</tr>
<tr>
<td>Annotated Articles and Essays</td>
<td></td>
</tr>
<tr>
<td>PREP ITEMS</td>
<td></td>
</tr>
<tr>
<td>Research Question</td>
<td></td>
</tr>
<tr>
<td>Expert adviser exercises (34)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PREP ACTIVITIES</th>
<th>43 – Choosing a Research Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45 – Producing Aims and Objectives</td>
</tr>
<tr>
<td></td>
<td>47 – Developing a Research Question</td>
</tr>
<tr>
<td></td>
<td>49 – Designing a Research Project</td>
</tr>
<tr>
<td></td>
<td>52 – Choosing Research Methods</td>
</tr>
<tr>
<td></td>
<td>54 – Using Multiple or Mixed Approaches</td>
</tr>
<tr>
<td></td>
<td>68 – Justifying a Research Topic</td>
</tr>
<tr>
<td></td>
<td>70 – Defending Methodology</td>
</tr>
</tbody>
</table>
UNIT 2 – MOVING FROM RESEARCH TOPIC TO RESEARCH PROPOSAL: CONTINUING BACKGROUND READING; REFINING THE RESEARCH QUESTION

SEPTEMBER
3. Working with Resources (A closer look at Methods and Style, Tracking Resources, Avoiding Plagiarism), Mini-Presentations
4. Reading around the Body of Knowledge, Selecting Sources, Determining Method, Mini-Presentations

NARRATIVE
By the end of this Unit, students should have completed all previous items, plus:
- finalized the peer-reviewed documents that they will rely on to build their research
- carefully read the underlying research and made notes on how data was collected in those pieces
- clearly identified a gap in the research that the student will pursue
- refined the research question to clearly set the parameters of the problem that will be addressed by the student’s own research
- continued to build the PREP binder with documentation to support the research
- met with their expert adviser in person or electronically and recorded/summarized all discussions in files notes kept in the PREP Binder.

MINI-LESSONS
Building an Annotated Bibliography (BI2)
Situating the research with SMARTER search. (75)(76)(BI2)
Establishing your own credibility as a Researcher (82)(BI1)(BI2)
Establish Credibility by Making Specific Choices
[Choosing a replicable method to establish a valid, new understanding.] [NOTE: Seminar: credibility is established via evaluation. Research: credibility is established via purposeful use; therefore, your choices in designing your research need to be acknowledged and supported by the literature in the field.]
Establish Credibility by Relying on Credible Sources: Assessing credibility of a source using PAARC. (83)(85)
Establish credibility by constructing meaning from multiple sources:
Acknowledging connections between multiple perspectives – choosing which perspectives to put into the research. There is no singular truth. (91)

Putting sources in conversation with each other. (92)(93)

Establish credibility through ethical research practices. (103)

Avoiding Plagiarism, Copyright Infringement, and Falsification or Fabrication of Information (103,104, 105)

<table>
<thead>
<tr>
<th>READING REFERENCES</th>
<th>AP Research Syllabus and AP Research Rubric</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AP Research Sample Paper(s)</td>
</tr>
<tr>
<td></td>
<td>SMARTER Acronym (76)</td>
</tr>
<tr>
<td></td>
<td>Turabian, Chapter 3: “Planning for an Answer”</td>
</tr>
<tr>
<td></td>
<td>Turabian, Chapter 4: “Finding Useful Resources”</td>
</tr>
<tr>
<td></td>
<td>Turabian, Chapter 5: “Engaging Sources”</td>
</tr>
<tr>
<td></td>
<td>Turabian, Chapter 6: “Planning Your Argument”</td>
</tr>
<tr>
<td></td>
<td>Palmquist, The Bedford Researcher: Chapters 9-11</td>
</tr>
<tr>
<td></td>
<td>Various books, book excerpts, articles, podcasts, media</td>
</tr>
<tr>
<td></td>
<td>86 – “Vaccines and Autism: A Tale of Shifting Hypotheses”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PREP ACTIVITIES</th>
<th>7 – Distinguishing Between Primary and Secondary Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9 – Finding and Using Primary Sources</td>
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<td>11 – Improving Observational Skills</td>
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<td>15 – Reflecting on Your Inquiry Skills</td>
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<td>17 – Using the Internet for Background Research</td>
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<td>19 – Evaluating Sources</td>
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<td>22 – Recognizing Statistics, Facts, Arguments, and Opinions</td>
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</tbody>
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<thead>
<tr>
<th>PREP ASSESSMENT ITEMS</th>
<th>77 – Evaluating Searches (77) – (Group Work/Presentation)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>79 – Using MS Word to Build an Annotated Bibliography (Practice)</td>
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<tr>
<td></td>
<td>81 – Annotating Bibliography (More than a summary.)</td>
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<td></td>
<td>85/86 – Establishing credibility (View Jenny McCarthy Video on Vaccinations and Article)(Group Work)</td>
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<tr>
<td></td>
<td>83 – Establishing credibility (for the actual paper)</td>
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<td>92 – Putting Sources in Conversation with Each Other (Practice/Paired Work)</td>
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<tr>
<td></td>
<td>92 – Putting Sources in Conversation with Each Other (Writing and Peer Feedback): How sources relate to each other in terms of significance and also how they relate (in terms of significance) to the topic of inquiry.</td>
</tr>
<tr>
<td></td>
<td>103, 104, 105, 106, 107 – Credibility is Everything in Research (Group Work and Reflection) [also Climate Science data hack article]</td>
</tr>
</tbody>
</table>
## UNITS 3 AND 4 – REFINING THE RESEARCH APPROACH AND METHOD:
THE LIT REVIEW; KEEPING THE BIG PICTURE IN MIND; PREPARING FOR THE RESEARCH PROCESS: METHODS; MENTORS; IRB APPROVAL

### OCTOBER/NOVEMBER/DECEMBER

| 5. The Structure and Design of the Research, Planning the Academic Paper |
| 6. Drafting the Lit Review |
| 7. Submitting the Research Proposal/Completing the IRB Application |

### NARRATIVE

By the end of this Unit, students should completed have all previous item, plus:
- begun drafting the Literature Review of underlying documentation
- created a clear plan for how they will collect data to support their research
- completed a risk assessment
- finalized and submitted their inquiry proposal
- submitted an IRB application for approval by 29 November, 2019.
- checked in with their expert adviser and recorded the content of their meeting in a file note stored in the PREP binder.
- updated their PREP binder

### MINI-LESSONS

- **Definitions, Assumptions, Hypotheses (108)(B14)**
  Delineating the difference between assumptions and hypotheses (110)(B14)
  The importance of definitions in research (111)(B14)(+sample paper)
  Presenting where you are on the QUEST (114)(115)(116)(117)(B15)

- **Contextualizing your QUEST with a Literature Review (119)(B12)**
  What does the Lit Review Accomplish? (120)(121)(122)(123)(B12)
  Revisit Annotated Bibliography (137)

- **Aligning the inquiry approach (angle), design (plan), and method [inductive/deductive] (execution)**
Choosing and defending an inquiry method (BI1):
The method should directly align to the research purpose (148)
Quantitative Methods – The Health Halo Experiment (149)
Qualitative – Field Observations, Interviews (154)
Mixed Method (155)
Rationale and Limitations for a Chosen Method (“Limitations are not excuses.”) (157)
Articulate Reasons for Using a Method and Acknowledging the Limitations (158)
Organize and discuss results of method (161)(162)(175) (BI4)

Engaging in Ethical Research Practices (BP1):
What is ethical research? (182) [exemptions, IACUC - Institutional Animal Care and Uses Committee]
What is the IRB? How do I get IRB Approval? The IRB Application (183)(188)
The Risk Assessment Form (189) Exemptions (190)
Questions asked on the IRB (191)
Post Research Form – to be completed by the adult supervising the student (192)
Ethical research practices.
IRB application and approval.
Constructing a Research Proposal/The Research Proposal Form (196)(204)
NOTE: Deadline for submitting IRB proposals is 29 November 2019.

READING REFERENCES
AP Research Syllabus and AP Research Rubric
AP Research Sample Paper(s)
Turabian, Chapter 6: “Planning Your Argument”
Turabian, Chapter 7: “Planning Your First Draft”
141, 142 – Research Methods Handout
Palmquist, The Bedford Researcher: Chapters 9-18
Various books, book excerpts, articles, podcasts, media
EBSCO

PREP ASSESSMENT ITEMS
108, 109 – The Story (Small Group Work and Whole Group Discussion)
110 – Delineating the Difference Between Assumptions and Hypotheses (Practice Group Work)
111 – The Importance of Definitions in Research (Practice Paired Work)
The Importance of Definitions in Research (Reflection)

114, 116 – Individual Presentations: Where are you on the QUEST PREP ITEMS (see below)

119 – What do you think is meant by a literature review? (Small Group Discussion)

121-131: Literature Review Practice (Small Group)

143 – Identifying the Research Method (Small Group)

144 – Checking the Alignment (Small Group Practice)(CFU)

149-153 – The Health Halo Experiment (Small Group Practice)

154 – Qualitative Experiment (Small Group Practice)

155 – Engaging in Mixed Methods (Small Group Practice)

157 – Limitations are not excuses. (Small Group Discussion)

161 – Choosing a Method, Peer Feedback

164 – Results and Discussion Components (Small Group Practice)

Putting Things Together:

- Research Question
- Five Scholarly, Peer-Reviewed Research Articles that relate to the research question
- Identify the Method Used to Collect Data and Information in the Articles
- An annotated bibliography citing in the format associated with your field of study, a discussion of the method used, a statement of how feasible it would be for you to mirror or modify such method for gathering data/information for your own research question.


PREP ACTIVITIES

52 – Choosing Research Methods
54 – Using Multiple or Mixed Approaches
57 – Knowing About Probability Samples
60 – Knowing About Non-Probability (Purposive) Sampling
63 – Choosing Sample Size
65 – Avoiding Sampling Problems
68 – Justifying Your Research Topic
70 – Defending Methodology
205 – Recognizing Ethical Issues
208 – Understanding Legal Requirements
214 – Producing a Code of Ethics
216 – Understanding Issues of Informed Consent
218 – Treating Participants with Respect
UNIT 5 – BUILDING THE ACADEMIC PAPER: DRAFTING COMPONENTS; MAXIMIZING THE BENEFIT OF PEER REVIEWS IN THE FEEDBACK PROCESS; PREPARING FOR THE PRESENTATION AND ORAL DEFENSE

<table>
<thead>
<tr>
<th>JANUARY - MARCH</th>
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<tbody>
<tr>
<td>NARRATIVE</td>
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| MINI-LESSONS   | First draft of components of academic paper. Conducting research. Drafting, feedback, revision, feedback, edit, design presentation, feedback, practice presentations, feedback, prep oral defense questions. |
|                | Performance Assessment Task (B15)  |
|                | - The Academic Paper (226) |
|                | Back to the Rubric, Back to the Sample Paper, The language of the rubric is the language of the academic paper, Using Resources, Peer Review and Feedback, Accountability, Self-Assessment (234) |
|                | - The Presentation and Oral Defense (230) |

| READING        | AP Research Syllabus and AP Research Rubric |
| REFERENCES | AP Research Sample Paper(s)  
Turabian, Chapter 8: “Drafting your Paper”  
Turabian, Chapter 9: “Quoting, Paraphrasing, and Summarizing Sources”  
Turabian, Chapter 10: “Preventing Plagiarism”  
Turabian, Chapter 11: “Presenting Evidence in Tables and Figures”  
Turabian, Chapter 12: “Revising Your Draft”  
Turabian, Chapter 13: “Writing Your Final Introduction and Conclusion”  
Turabian, Chapter 14: “Revising Sentences”  
Palmquist, *The Bedford Researcher*: Chapters 12-18  
Various articles, podcasts, media |
|---|---|
| PREP ASSESSMENT ITEMS | - drafts and peer reviews  
PREP items (see below) |
| PREP ACTIVITIES | Section 3 – Conducting research  
87 – Understanding the Process of Science  
89 – Knowing About Real-World Scientific Research  
91 – Avoiding Mistakes in Experiments  
96 – Conducting Interviews  
99 – Constructing Questions  
102 – Producing an Interview Schedule  
104 – Running a Focus Group  
109 – Listening to Interviewees  
115 – Recording Techniques  
120 – Using Observation Techniques  
125 – Designing Questionnaires  
128 – Improving Response Rates  
131 – Using the Internet as a Tool for Research  
Section 4 – Using and Analyzing Data  
137 – Reading Scientific Material  
140 – Improving Data Search Techniques  
143 – Storing and Using Data  
145 – Making Use of Statistics  
148 – Choosing Software for Statistical Analysis  
151 – Finding and Using Datasets  
154 – Analyzing Quantitative Data  
156 – Operationalizing and Classifying  
159 – Ensuring Validity and Reliability in Quantitative Research |
| 161 – Knowing about Data Management  
163 – Analyzing Qualitative Data  
166 – Analyzing Visual Data  
169 – Coding and Categorizing Qualitative Data  
171 – Evaluating Qualitative Analyses  
173 – Drawing Conclusions from Qualitative Data  
Section 5 – Disseminating Results  
181 – Presenting to a Lay Audience  
185 – Presenting Conference Papers |

**PREP WIP ITEMS: UNIT 5 (as advised)**

**UNIT 6 – FINAL PRODUCTS: SUBMITTING THE FINAL PAPER; THE PANEL PRESENTATION AND ORAL DEFENSE**

<table>
<thead>
<tr>
<th>APRIL</th>
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</table>
| **TASK** | Draft Oral Defense Responses, Peer Review and Feedback  
Submit Final Paper to Turnitin and Digital Portfolio  
Final Presentation and Oral Defense |
| **NARRATIVE** | By the end of this Unit, students should have completed the following:  
- drafted media presentations and participated in round one of peer reviews  
- drafted revised presentations and participated in round two of peer reviews  
- thoroughly practiced their presentations individually and for selected audiences (specifically to work on timing and presentation skills)  
- finalized academic paper and submitted academic paper to Turnitin, made final revisions  
- submitted academic paper to the digital portfolio (NOTE: a day will be assigned for this in class.)  
- reviewed and drafted responses to oral defense questions  
- practiced responses to oral defense questions  
- completed their final presentations and oral defense (scored and submitted by teacher by 30 April 2020)  
- updated the FINAL PREP BINDER |
| **PREP ASSESSMENT ITEMS** | Drafts and peer reviews |
UNIT 7 – WHAT HAPPENS AFTER RESEARCH? – THE AP RESEARCH SYMPOSIUM, SUBMITTING THE FINAL PREP BINDER AND EXIT INTERVIEW

### MAY

| TASK            | Final Presentations  
|                 | PREP Items (see below)  
|                 | FINAL PREP FOLDER  
|                 | SYMPOSIUM MATERIALS  

| NARRATIVE       | By the end of this Unit, students should completed have all previous item, plus:  
|                 | - participated in the AP Research Symposium (presentations to AP Seminar)  
|                 | - handed in FINAL PREP BINDER  
|                 | - participated in Final Exit Interview for AP Research  

| PREP ASSESSMENT ITEMS | FINAL PREP BINDER  
|                       | Students will be advised of the items to be included in the Final PREP binder and the date of the AP Research Symposium and Final Exit Interview.  

DISCUSSION STRATEGIES
Discussion is an essential instructional method in the AP Research course because it helps students identify and understand multiple perspectives and deepen their own understanding of the topics being studied. Effective discussion goes beyond summary and comprehension in that it requires students to actively grapple with others’ ideas as they formulate their own perspectives on an issue. Some discussion strategies are listed in the following table.

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>PURPOSE</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socratic Seminar</td>
<td>To help students arrive at a new understanding by asking questions that clarify; challenge assumptions; probe perspective and point of view; question facts, reasons, and evidence; or examine implications and outcomes.</td>
<td>A focused discussion in which students engage with open-ended questions tied to a specific topic or text. The discussion continues with student responses and, when needed, additional open-ended questions that allow students to express their ideas and engage in complex thinking.</td>
</tr>
<tr>
<td>Debate</td>
<td>To provide students with an opportunity to collect and orally present evidence supporting the affirmative and negative arguments of a proposition or issue.</td>
<td>The presentation of an informal or formal argumentation that defends a claim with reasons, while others defend different claims about the same topic or issue. The goal is to debate ideas without attacking the people who defend those ideas.</td>
</tr>
<tr>
<td>Jigsaw</td>
<td>To have students summarize and present information to others in a way that facilitates an understanding of a text (or multiple texts) or issue without having each student read the text in its entirety; by teaching others, they</td>
<td>Each student in a group reads a different text or different passage from a single text, taking on the role of “expert” on what was read. Students share the information from that reading with students from other groups and then</td>
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<tr>
<td>Method</td>
<td>Description</td>
<td>Strategies</td>
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<tr>
<td>Fishbowl</td>
<td>To provide students with an opportunity to engage in a formal discussion and to experience the roles of both participant and active listener; students also have the responsibility of supporting their opinions and responses using specific evidence.</td>
<td>Some students form an inner circle and model appropriate discussion techniques while an outer circle of students listens, responds, and evaluates [prepares questions].</td>
</tr>
<tr>
<td>Shared Inquiry</td>
<td>To allow a teacher to lead a deep discussion of a text and encourage a diversity of ideas to emerge as students think deeply and share interpretations.</td>
<td>Students read a provocative text and are asked interpretative questions (questions for which there are no predetermined “right” answers). Students offer different answers and debate one another, supporting their positions with specific evidence from the text.</td>
</tr>
<tr>
<td>Discussion Group</td>
<td>To allow students to gain new understanding of or insight into a text or issue by listening to multiple perspectives.</td>
<td>Students engage in an interactive, small-group discussion, often with an assigned role (e.g., questioner, summarizer, facilitator, evidence keeper) to consider a topic, text, question, etc.</td>
</tr>
<tr>
<td>Debriefing</td>
<td>To solidify and deepen student understanding.</td>
<td>A facilitating discussion that leads to consensus understanding or helps students identify the key conclusions or takeaways.</td>
</tr>
</tbody>
</table>

### CORE SKILLS DEVELOPED ON THIS COURSE

<table>
<thead>
<tr>
<th>CORE SKILL</th>
<th>DESCRIPTION OF CORE</th>
<th>STRATEGIES FOR</th>
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65
<table>
<thead>
<tr>
<th>SKILL</th>
<th>IMPLEMENTATION</th>
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<tbody>
<tr>
<td>Critical Reading</td>
<td>The strategic process of discovering ideas and information in a text.</td>
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<td>Critical reading strategies include:</td>
</tr>
<tr>
<td></td>
<td>➢ contextualizing</td>
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<td></td>
<td>➢ questioning assumptions</td>
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<tr>
<td></td>
<td>➢ identifying bias and implications</td>
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<tr>
<td></td>
<td>➢ making inferences</td>
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<tr>
<td></td>
<td>➢ making connections</td>
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<td>Close reading: Carefully reading, rereading, marking, and annotating a passage — word by word, line by line, and sentence by sentence.</td>
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<td>Marking the text: Selecting text by highlighting, underlining, and/or annotating for specific components, such as main idea, assumptions, evidence, etc.</td>
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<td>Summarizing, paraphrasing, retelling: Restating, in the student’s own words, essential information expressed in a text.</td>
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<td>Using metacognitive markers: Responding to a text with a system of cueing marks such as a question mark for questions, an exclamation point for reactions, an asterisk for comments about the text, and underlining to signal key ideas.</td>
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<td>Previewing: Examining a text’s structure, features, layout, etc. prior to reading.</td>
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<td>Questioning the text: Developing questions about a text while reading it.</td>
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<td>Using a Think-aloud: Talking through a difficult text or task by using a</td>
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<tr>
<td><strong>Critical Thinking</strong></td>
<td>The thinking process of [comprehending], analyzing, interpreting, synthesizing, and evaluating perspectives. Thinking strategies used in critical thinking include: comparing and/or contrasting identifying patterns and trends explaining relationships (comparative, causal, correlational)</td>
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| **Inquiry and Research** | The process of discovering new understandings or ideas. Inquiry and research strategies include:  
- identifying a problem or issue  
- determining the best strategy to address the problem or issue  
- gathering evidence | **I-Search paper:** A personal research paper about a topic that is important to the student. Usually less formal than a traditional research paper, an I-Search paper tells the story of the writer’s personal search for information, as well as what the writer learned about the topic. |
- drawing and supporting a conclusion

<table>
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<tr>
<th>Service learning: Linking classroom-based contexts with field-based “experiential learning” within the community. Students gain direct experience of issues they are studying in the curriculum and ongoing efforts to analyze and address problems in the community. Students are given an opportunity to apply what they are learning in real-world settings and to reflect in a classroom setting on their service experiences.</th>
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<tbody>
<tr>
<td><strong>WebQuest:</strong> An inquiry-oriented lesson format in which most or all of the information that learners work with comes from the Web.</td>
</tr>
<tr>
<td><strong>Source mining:</strong> Reviewing the bibliographies of research studies or articles on a topic to see which names or works are referenced repeatedly to get an overview of key scholars or sources in the field.</td>
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<tr>
<td><strong>Annotated bibliography:</strong> A bibliography that includes a brief summary of each source and a commentary about its usefulness to the inquiry along with the source’s...</td>
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<tr>
<td>Argumentation</td>
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<tr>
<td>“Arguespeak is the language of power, not just in school, but in the world at large.”</td>
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<tr>
<th>Question formulation technique:</th>
<th>The teacher provides a stimulus from which students openly brainstorm questions; students then categorize the questions as either open-ended or closed-ended, work on improving them, prioritize them, use them, and reflect on their use.</th>
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<tr>
<th>Socratic seminar:</th>
<th>A focused discussion in which students engage with open-ended questions tied to a specific topic or text. The discussion continues with student responses and, when needed, additional open-ended questions that allow students to express their ideas and engage in complex thinking.</th>
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<th>Debate:</th>
<th>The presentation of an informal or formal argumentation that defends a claim with reasons, while others defend different claims about the same topic or issue. The goal is to debate ideas without attacking the people who defend those ideas.</th>
</tr>
</thead>
</table>

| Outlining/Reverse outlining: | Using a system of numerals and letters to identify relationships |
between key points and supporting evidence and to ensure an appropriate balance of ideas and a coherent line of reasoning. This process can be done prior to the writing process and/or at the end (in reverse) when students are revising and editing their work.

| Communication | The process of conveying a clear message in a way that engages and appeals to a specific audience. Techniques that may be used to emphasize ideas and engage an audience include:  
- eye contact  
- vocal variety (tempo, inflection)  
- emphatic gestures  
- movement  
- appropriate visuals | **Peer review:** Students provide structured review of each other’s presentations according to a set of established criteria or guidelines (e.g., comments must not be personal; comments must be constructive with suggestions for improvement).  
**Videotaping for self-evaluation and reflection:** Individual students review recordings of their own presentations with guided reflection questions focusing on specific techniques.  
**Practice modeling:** The teacher models for the class presentation techniques for emphasizing ideas and engaging an audience (eye contact, gestures, use of voice, etc.). Students then practice using those techniques and gain |
| Collaboration | The process of working with others to accomplish a shared task or goal or solve a problem. Strategies for collaboration include:  
- individual role and contribution  
- consensus building  
- conflict resolution | **Teambuilding activities:** Warm-up activities in which group members work together to solve a small puzzle or problem, building or strengthening relationships and rapport before engaging in the main task.  
**Collective determination of group norms:** Students discuss in small groups what they think should be the group norms (the rules that define acceptable and unacceptable behavior within groups). They then engage in an all-class discussion on the various rules proposed and come to a consensus as to the final set of rules to be implemented for all groups. This process allows students to have an active role in designing course policies, which may help to increase buy-in.  
**Assigning roles:** Assigning roles (e.g., facilitator, timekeeper, recorder, presenter) to individual group members for a particular topic or investigation and then switching the roles so that students get to experience as many as possible. |
***KEEP YOUR SYLLABUS IN YOUR PREP BINDER – HAND IN THIS PAGE ONLY!***

STUDENT:

I have read the AP RESEARCH – SYLLABUS for Ms. Lawrence’s class and I understand that the course is intended to mirror a rigorous college level course. I further understand that my success in the class will require a consistent commitment from me throughout the year.

_______________________________
Student Name (Print)
Date:

PARENT/GUARDIAN:

I have read the AP RESEARCH – SYLLABUS for Ms. Lawrence’s class, and I will encourage and support my son/daughter throughout the school year to achieve his/her goals under the syllabus

_______________________________
Parent/Guardian Name (Print)
Date :

(Please circle preferred correspondence – email or phone)

Email Address ________________________________

Phone Number ________________________________

Questions, comments or concerns:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________