



**FREEHOLD REGIONAL HIGH SCHOOL DISTRICT  
OFFICE OF CURRICULUM AND INSTRUCTION  
HUMANITIES MAGNET PROGRAM**

## **ADVANCED PLACEMENT RESEARCH**

Grade Level: 12

Credits: 5

**BOARD OF EDUCATION ADOPTION DATE: August 25, 2022**

# **FREEHOLD REGIONAL HIGH SCHOOL DISTRICT**

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AP RESEARCH		
Course Description		
<p><i>AP Research</i>, the second course in the AP Capstone experience, allows students to deeply explore an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in the <i>AP Seminar</i> course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000–5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense.</p>		
Course Sequence and Pacing		
Unit Title	Sections	Suggested Pacing
Unit 1: Selecting a Topic and Collecting Sources	1.1: Situate the Approach for Your QUEST 1.2: Determining Source Credibility (CRAAP Testing) 1.3: Mini Bib- Collecting Sources 1.4: Beginning the PREP Journal 1.5: Developing a Research Question (Draft) 1.6: Work in Progress Presentation; Effective Peerfeedback; Active Revision	10 sessions
Unit 2: Producing an Annotated Bibliography and Writing a Literature Review	2.1: Continuing Source Collection 2.2: Formal Annotated Bibliography 2.3: Drafting Problem Statements 2.4: Synthesize sources, research method, and prep for literature review 2.5: Drafting Literature Review 2.6: Elevator Pitch and Poster Project	15 sessions
Unit 3: Selecting a Method and Designing Your Inquiry	3.1: Aligning Approach, Design, and Method in Inquiry 3.2: Gaining Institutional Review Board Approval 3.3: Presentation and Oral Defense Practice 3.4: View, Pair, Share—Evaluating Presentation and Oral Defense Models 3.5: Composing the Inquiry Proposal Form 3.6: PVLEGS©—Presentation and Oral Defense Practice:	15 sessions
Unit 4: Collecting, Representing, and Analyzing Data	4.1: Collecting Data 4.2: Putting Data Into Words-The Findings Element 4.3: Choosing the Right Visual	25 sessions
Unit 5: Analyzing Data and Drawing Conclusions	5.1: “Data, Data, Data”-The Analysis Element 5.2: The “So What?” Factor-The Conclusion Element I 5.3: “Give Me Credit Where Credit Is Due”-Bibliography 5.4: “A Fresh Pair of Eyes”-Peer Reviewing the Paper 5.5: Editing the Paper	20 sessions
Unit 6: Preparing and Practicing the Presentation and Oral Defense	6.1: “Show Me What You Got”-Presentation Preparation 6.2: “DEFENSE!”-Oral Defense Preparation 6.3: “A Fresh Pair of Eyes”-Peer Reviewing the POD Practice	18 sessions
Support Resources		
<p>Supporting resources and appendices for this curriculum are available. These include a Resource Catalog of standards-aligned activities, common formative assessment and interdisciplinary items for performance expectations and objectives in this course.</p>		

- Advanced Placement Research Resource Catalog
- [Appendix A: Accommodations and Modifications for Various Student Populations](#)
- [Appendix B: Assessment Evidence](#)
- [Appendix C: Interdisciplinary Connections](#)

## AP Research

### Unit 1: Selecting A Topic and Collecting Sources

#### Section 1.1: Situate the Approach for Your Quest

#### AP CED Learning Objectives

LO 1.1D Articulating the purpose and significance of the scholarly inquiry.

LO 1.1E Developing and revising a focused research question/project goal.

**Aligned Daily Objectives.** Instruction and assessment will align to the following objectives:

[1-1] Articulate the purpose and significance of the scholarly inquiry.

EK 1.1D2 The purpose of scholarly inquiry is to address various kinds of problems (e.g., practical, theoretical, interpretive, aesthetic) and/or corroborate, challenge, or extend an existing idea

[1-2] Develop and revise a focused research question/project goal.

EK 1.1E2 A research question/ project goal often requires multiple revisions to ensure it is appropriate in terms of scope and feasibility (time, resources).

## AP Research

### Unit 1: Selecting a Topic and Collecting Sources

#### Section 1.2: Determining Source Credibility (CRAAP Testing)

#### AP CED Learning Objectives

LO 2.2C Evaluating the validity of an argument.

**Aligned Daily Objectives.** Instruction and assessment will align to the following objectives:

[1-3] Evaluate the validity of an argument.

EK 2.2C2 Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases

EK 2.2C3 Conclusions are contextual and their validity must be affirmed, qualified, or refuted.

<b>AP Research</b> <b>Unit 1: Selecting a Topic and Collecting Sources</b> <b>Section 1.3: Mini Bib-Collecting Sources</b>
<b>AP CED Learning Objectives</b>
LO 1.1C Identifying a topic of inquiry
LO 1.1E Developing and revising a focused research question/project goal.
LO 1.2A Retrieving, questioning, organizing, and using prior knowledge about a topic.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[1-4] Identify a topic of inquiry</p> <p>EK 1.1C1 Topics of inquiry may come from personal interest, passion for a discipline/field, desire to better understand a topic, or desire to address an issue in the world.</p> <p>EK 1.1C2 The inquiry process involves exploring the knowledge base associated with the topic of interest, including a variety of perspectives, and adjusting the scope of the topic to the parameters, requirements, and resources available for the project.</p> <p>EK 1.1C3 Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions.</p>
<p>[1-5] Develop and revise a focused research question/project goal.</p> <p>EK 1.1E1 A research question/ project goal emerges from the scholar's purpose (i.e., to explore, explain, and create).</p> <p>EK 1.1E2 A research question/ project goal often requires multiple revisions to ensure it is appropriate in terms of scope and feasibility (time, resources).</p>
<p>[1-6] Retrieve, question, organize, and use prior knowledge about a topic.</p> <p>EK 1.2A1 Understanding comes not only through collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, assumptions).</p> <p>EK 1.2A2 A variety of strategies (e.g., brainstorming, concept mapping, prewriting, exploration of space, drafting) can be used to illustrate, organize, and connect ideas.</p> <p>EK 1.2A3 Inquiry confirms or challenges one's existing understandings, assumptions, beliefs, and/or knowledge</p>

<b>AP Research</b> <b>Unit 1: Selecting a Topic and Collecting Sources</b> <b>Section 1.4: Beginning the PREP Journal</b>
<b>AP CED Learning Objectives</b>
LO 3.1A Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[1-7] Identify, compare, and interpret multiple perspectives on or arguments about an issue.</p> <p>EK 2.2C2 Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases</p> <p>EK 2.2C3 Conclusions are contextual and their validity must be affirmed, qualified, or refuted.</p>

<b>AP Research</b> <b>Unit 1: Selecting a Topic and Collecting Sources</b> <b>Section 1.5: Developing a Research Question (Draft)</b>
<b>AP CED Learning Objectives</b>
LO 4.1A Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.
LO4.4A Extending an idea, question, process, or product to innovate or create a new understanding.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[1-8] Identify, compare, and interpret multiple perspectives on or arguments about an issue.</p> <p>EK 4.1A1 Effective arguments use reason and evidence to convey a perspective, point of view, or some version of the truth that is stated or implied in the thesis and/or conclusion.</p> <p>EK 4.1A2 Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.</p> <p>EK 4.1A3 Qualifiers place limits on how far a claim may be carried. Effective arguments acknowledge these limits, increasing credibility by reducing overgeneralization or oversimplification.</p> <p>EK 4.1A4 Effective arguments acknowledge other arguments and/or respond to them with counter arguments (e.g., concession, refutation, rebuttal).</p> <p>EK 4.1A5 The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.</p> <p>EK 4.1A6 The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion)</p> <p>EK 4.1A7 A line of reasoning is organized based on the argument's purpose (e.g., to show causality, to evaluate, to define, to propose a solution).</p> <p>EK 4.1A8 Claims and supporting evidence are arranged (e.g., spatially, chronologically, order of importance) to convey reasoning and relationship (e.g., comparative, causal, correlational).</p> <p>EK 4.1A9 The same argument may be organized, arranged, or supported in multiple ways depending on audience and context.</p> <p>EK 4.1A10 Whether developing an argument or conceptualizing an idea or work of art, scholars thoughtfully choose and implement a process aligned with the inquiry or project goal</p> <p>EK 4.1A11 Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.</p> <p>EK 4.1A12 An aesthetic rationale is an argument in that it is a reasoned articulation of specific formal and stylistic choices made in the course of devising the artistic work.</p>
<p>[1-9] Extend an idea, question, process, or product to innovate or create a new understanding.</p> <p>EK 4.4A1 Innovative solutions and arguments identify and challenge assumptions, acknowledge the importance of content, imagine and explore alternatives, and engage in reflective skepticism.</p>

<b>AP Research</b> <b>Unit 1: Selecting a Topic and Collecting Sources</b> <b>Section 1.6: Work in Progress Presentation; Effective Peerfeedback; Active Revision</b>
<b>AP CED Learning Objectives</b>
LO 5.3A Reflecting on and revising their own writing, thinking, and creative processes.
LO 5.4A Engaging in peer review to provide constructive responses to one another's work, appropriate to the stage of a project's development.
LO 5.4B Engaging in peer review to receive and consider responses to their work.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[1-10] Formulate a well-reasoned argument, taking the complexities of the problem or issue into consideration.</p> <p>EK 5.3A1 Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation.</p> <p>EK 5.3A2 Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.</p> <p>EK 5.3A3 Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis,</p>

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.

[1-11] Engage in peer review to provide constructive responses to one another's work, appropriate to the stage of a project's development.

EK 5.4A1 Peer review should be based on guidelines and defined criteria appropriate to the work.

[1-12] Engage in peer review to receive and consider responses to their work.

EK 5.4B1 Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.

EK 5.4B2 Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.

## **AP Research**

### **Unit 2: Producing an Annotated Bibliography and Writing a Literature Review**

#### **Section 2.1: Continuing Source Collection**

#### **AP CED Learning Objectives**

LO 1.3A Accessing and managing information using effective strategies.

LO 1.4A Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.

**Aligned Daily Objectives.** Instruction and assessment will align to the following objectives:

[2-1] Access and manage 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 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.

[2-2] Evaluate 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 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.

<b>AP Research</b> <b>Unit 2: Producing an Annotated Bibliography and Writing a Literature Review</b> <b>Section 2.2 Formal Annotated Bibliography</b>
<b>AP CED Learning Objectives</b>
LO 3.1A Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.
LO 3.2A Evaluating alternate, opposing, or competing perspectives or arguments, by considering their implications and limitations.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[2-3] Identify, compare, and interpret multiple perspectives on or arguments about an issue.</p> <p>EK 3.1A1 An individual's perspective is influenced by his or her background (e.g., experiences, culture, education), assumptions, and worldview, as well as by external sources.</p> <p>EK 3.1A2 Perspectives are not always oppositional; they may be concurring, complementary, or competing.</p> <p>EK3.1A3 Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.</p>
<p>[2-4] Evaluate alternate, opposing, or competing perspectives or arguments, by considering their implications and limitations.</p> <p>EK 3.2A1 Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic.</p> <p>EK 3.2A2 When evaluating multiple perspectives or arguments, consideration must be given to how one's own personal biases and assumptions can influence one's judgment.</p>

<b>AP Research</b> <b>Unit 2: Producing an Annotated Bibliography and Writing a Literature Review</b> <b>Section 2.3: Drafting Problem Statements</b>
<b>AP CED Learning Objectives</b>
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.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[2-5] Interpret, use, and synthesize qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, non-print) to develop and support an argument.</p> <p>EK 4.2A1 Evidence can be collected from print and non-print sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations).</p> <p>EK 4.2A2 Evidence is used to support the claims and reasoning of an argument. Compelling evidence is sufficient, accurate, relevant, current, and credible to support the conclusion.</p> <p>EK 4.2A3 Evidence is strategically chosen based on context, purpose, and audience. Evidence may be used to align an argument with authority; to define a concept, illustrate a process, or clarify a statement; to set a mood; to provide an example; to amplify or qualify a point.</p> <p>EK 4.2A4 The evidence selected and attributed contributes to establishing the credibility of one's own argument.</p>



<b>AP Research</b> <b>Unit 2: Producing an Annotated Bibliography and Writing a Literature Review</b> <b>Section 2.4: Synthesize your sources to choose a research method and prepare for Literature Review</b>
<b>AP CED Learning Objectives</b>
LO 4.1B Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.
LO 4.2B Providing insightful and cogent commentary that links evidence with claims.
LO 4.3A Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[2-6] Select and consistently apply an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.</p> <p>EK 4.1B1 Each discipline has its own conventions and ways of knowing, questioning, and communicating.</p> <p>EK 4.1B2 Scholars apply discipline-specific terminology in the analysis of scholarly works.</p> <p>EK 4.1B3 The different disciplines and associated ways of knowing and valuing information are discovered in part through engaging with discipline-specific foundational texts and works.</p> <p>EK 4.1B4 Disciplines may be broadly or narrowly defined. Disciplines can intersect or be combined to provide new understandings or perspectives.</p>
<p>[2-7] Provide insightful and cogent commentary that links evidence with claims.</p> <p>EK 4.2B1 Commentary connects the chosen evidence to the claim through interpretation or inference, identifying patterns, describing trends, and/or explaining relationships (e.g., comparative, causal, correlational).</p>
<p>[2-8] Attribute knowledge and ideas accurately and ethically, using an appropriate citation style.</p> <p>EK 4.3A1 Accurate and ethical attribution enhances one's credibility.</p> <p>EK 4.3A2 Plagiarism is a serious offense that occurs when a person presents another's ideas or words as his or her own. Plagiarism may be avoided by acknowledging sources thoroughly and accurately.</p> <p>EK 4.3A3 Source material should be introduced, integrated, or embedded into the text of an argument.</p> <p>EK 4.3A4 Quoted and paraphrased material must be properly attributed, credited, and cited following a style manual. quoting is using the exact words of others; paraphrasing is restating an idea in one's own words.</p> <p>EK 4.3A5 Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).</p> <p>EK 4.3A6 Appropriation in works of art has potential legal and ethical implications that scholars need to consider (e.g., scholars must credit works that are used in visual/audio sampling, parody, choreography).</p>

<b>AP Research</b> <b>Unit 2: Producing an Annotated Bibliography and Writing a Literature Review</b> <b>Section 2.5: Drafting Literature Review</b>
<b>AP CED Learning Objectives</b>
LO 2.1B Summarizing and explaining a text’s main idea or aim while avoiding faulty generalizations and oversimplification.
LO 2.2A Explaining and analyzing the logic and line of reasoning of an argument.
LO 2.2B Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.
LO 2.2D Evaluating and critiquing others’ inquiries, studies, artistic works, and/or perspectives.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[2-9] Summarize and explain a text’s main idea or aim while avoiding faulty generalizations and oversimplification.  EK 2.1B1 The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.  EK 2.1B2 Artistic works (e.g., painting, film, music, dance) convey a perspective. Analysis of a work’s context, subject, structure, style, and aesthetic is critical to understanding its aims.</p>
<p>[2-10] Explain and analyze the logic and line of reasoning of an argument.  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).  EK 2.2A3 Inductive reasoning uses specific observations and/or data points to identify trends, make generalizations, and draw conclusions. Deductive reasoning uses broad facts or generalizations to generate additional, more specific conclusions about a phenomenon.  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 counter arguments (e.g., concession, refutation, rebuttal).</p>
<p>[2-11] Evaluate the relevance and credibility of evidence used to support an argument, taking context into consideration.  EK 2.2B1 An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation  EK 2.2B2 Writers use qualitative and/or quantitative evidence (e.g., facts, data, observations, predictions, analogies, explanations, opinions) to support their claims. Evidence has varying degrees of validity.  EK 2.2B3 Authors strategically include evidence to support their claims  EK 2.2B4 Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).  EK 2.2B5 Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.  EK 2.2B6 Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own biases.</p>
<p>[2-12] Evaluate and critique others’ inquiries, studies, artistic works, and/or perspectives.  EK 2.2D1 Scholars analyze and evaluate others’ studies and artistic works in terms of internal coherence and alignment of the purposes, goals, and methods of inquiry.</p>

<b>AP Research</b> <b>Unit 2: Producing an Annotated Bibliography and Writing a Literature Review</b> <b>Section 2.6: Create, deliver, and provide feedback on your Elevator Pitch and Poster Project</b>
<b>AP CED Learning Objectives</b>
LO5.1A[R] Planning and producing a cohesive academic paper, considering audience, context, and purpose.
LO 5.1D Adapting an argument for context, purpose, and/or audience.
LO 5.3A Reflecting on and revising their own writing, thinking, and creative processes.
LO5.4B Engaging in peer review to receive and consider responses to their work.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[2-13] Plan and produce a cohesive academic paper, considering audience, context, and purpose.</p> <p>EK 5.1A1[R] Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:</p> <ul style="list-style-type: none"> <li>►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</li> <li>►Method, Process, or Approach: explains and provides justification for the chosen method, process, or approach</li> <li>►Results, Product, or Findings: presents the results, product, evidence, or findings</li> <li>►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</li> <li>►Conclusion and Future Directions: reflects on the process and how this project could impact the field; discusses possible next steps</li> <li>►Bibliography: provides a complete list of sources cited and consulted in the appropriate disciplinary style</li> </ul>
<p>[2-14] Adapt an argument for context, purpose, and/or audience.</p> <p>EK 5.1D1 Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose.</p> <p>EK 5.1D2 Scholars should articulate their choices and content in a language that is not discipline-specific to communicate effectively to non experts or people outside the discipline.</p>
<p>[2-15] Reflect on and revise their own writing, thinking, and creative processes.</p> <p>EK 5.3A1 Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation.</p> <p>EK 5.3A2 Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting.</p> <p>EK 5.3A3 Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation.</p> <p>EK 5.3A4 Scholars reflect on how the inquiry process helped them deepen their understanding, make important connections, and develop greater self-direction.</p>
<p>[2-16] Engage in peer review to receive and consider responses to their work.</p> <p>EK 5.4B1 Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.</p> <p>EK 5.4B2 Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.</p>

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.1: Aligning Approach, Design, and Method in Inquiry</b>
<b>AP CED Learning Objectives</b>
LO1.5B- Designing, planning, and implementing a scholarly inquiry
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[3-1] Design, plan, and implement a scholarly inquiry</p> <p>EK 1.5B1 Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal.</p> <p>EK 1.5B2 Methods of inquiry may include research methods (e.g., qualitative, quantitative, or mixed) or artistic processes(e.g., generating, conceptualizing, testing, and then refining aesthetic approaches).</p> <p>EK 1.5B3 Throughout the process of determining scope and feasibility, the scholar may, where appropriate, adjust the course of inquiry and/or develop different tools, methods, and processes.</p> <p>EK 1.5B4 Artistic processes can include elements of research methods as well as the exploration and shaping/reshaping of media and form through activities such as workshopping, storyboarding, composing, choreographing, staging, and model-making.</p> <p>EK 1.5B5 Based on the research question or project goal, methods of data or information collection may be qualitative (e.g., open-ended survey questions, interviews, observational notes, interpretation of texts); may be quantitative (e.g., precise measurements, modeling, using structured and validated data collection instruments and procedures); or could include a combination of both qualitative and quantitative (mixed).</p> <p>EK 1.5B6 Scholars analyze data or information in a variety of ways appropriate to the inquiry.</p> <p>EK 1.5B7 Scholars identify reasons for choosing a sample of information, a population, or artifacts and understand the limits of the inferences or conclusions made based on the sample chosen.</p> <p>EK 1.5B8 Descriptive or inferential statistics can be used to display and/or analyze data.</p> <p>EK 1.5B9 Scholars often organize and categorize (or code) data/information to identify patterns or themes.</p> <p>EK 1.5B10 Scholars can combine qualitative and quantitative data/information to triangulate and corroborate trends, patterns, correlations, and/or themes.</p>

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.2: Gaining Institutional Review Board Approval</b>
<b>AP CED Learning Objectives</b>
LO 1.1D Articulating the purpose and significance of the scholarly inquiry.
LO 1.5D Employing ethical research practices.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[3-2] Articulate the purpose and significance of the scholarly inquiry.</p> <p>EK 1.1D1 Scholars explore, explain, and create; EK 1.1D2 The purpose of scholarly inquiry is to address various kinds of problems (e.g., practical, theoretical, interpretive, aesthetic) and/or corroborate, challenge, or extend an existing idea</p> <p>EK 1.1D3 Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community.</p>
<p>[3-3] Employ ethical research practices.</p> <p>EK 1.5D1 Scholars have ethical and moral responsibilities when they conduct research.</p> <p>EK 1.5D2 There are laws, rules, and guidelines that govern the conduct of researchers, in particular when studies involve humans and animals. Accordingly, scholars gain approval to conduct research with humans through an institutional review board (IRB).</p> <p>EK 1.5D3 There are copyright and patent laws and guidelines that govern the use and reproduction of others' instruments, work, personal information, and intellectual property.</p>

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.3: Presentation and Oral Defense Practice</b>
<b>AP CED Learning Objectives</b>
LO 2.3A Connecting an argument to broader issues by examining the implications of the author's claim.
LO 2.3A Connecting an argument to broader issues by examining the implications of the author's claim.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[3-4] Connect an argument to broader issues by examining the implications of the author's claim. EK 2.3A1 The implications and consequences of arguments may be intended or unintended.
[3-5] Evaluate potential resolutions, conclusions, or solutions to problems or issues raised by an argument. EK 2.3B1 Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.4: View, Pair, Share—Evaluating Presentation and Oral Defense Models</b>
<b>AP CED Learning Objectives</b>
LO 3.1A Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[3-6] Identify, compare, and interpret multiple perspectives on or arguments about an issue. EK 3.1A1 An individual's perspective is influenced by his or her background (e.g., experiences, culture, education), assumptions, and worldview, as well as by external sources. EK 3.1A2 Perspectives are not always oppositional; they may be concurring, complementary, or competing. EK3.1A3 Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.5: Composing the Inquiry Proposal Form</b>
<b>AP CED Learning Objectives</b>
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.
LO 4.4A Extending an idea, question, process, or product to innovate or create new understandings.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[3-7] Interpret, use, and synthesize qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, non-print) to develop and support an argument.</p> <p>EK 4.2A1 Evidence can be collected from print and non-print sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations).</p> <p>EK 4.2A2 Evidence is used to support the claims and reasoning of an argument. Compelling evidence is sufficient, accurate, relevant, current, and credible to support the conclusion.</p> <p>EK 4.2A3 Evidence is strategically chosen based on context, purpose, and audience. Evidence may be used to align an argument with authority; to define a concept, illustrate a process, or clarify a statement; to set a mood; to provide an example; to amplify or qualify a point.</p> <p>EK 4.2A4 The evidence selected and attributed contributes to establishing the credibility of one's own argument.</p>
<p>[3-8] Extend an idea, question, process, or product to innovate or create new understandings.</p> <p>EK 4.4A1 Innovative solutions and arguments identify and challenge assumptions, acknowledge the importance of content, imagine and explore alternatives, and engage in reflective skepticism.</p>

<b>AP Research</b> <b>Unit 3: Selecting a Method and Designing Your Inquiry</b> <b>Section 3.6: PVLEGS®—Presentation and Oral Defense Practice:</b>
<b>AP CED Learning Objectives</b>
LO 5.1E Engaging an audience by employing effective techniques of delivery or performance.
LO 5.1F Defending inquiry choices and final product with clarity, consistency, and conviction.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[3-9] Engage an audience by employing effective techniques of delivery or performance.</p> <p>EK 5.1E1 Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) to emphasize information, convey tone, and engage their audience.</p> <p>EK 5.1E2 Scholars present, perform, and/or produce their work in multiple ways. This may take discipline-specific forms (e.g., portfolios, exhibits, performances, showcases, premieres, posters), but may also cross disciplinary boundaries.</p> <p>EK 5.1E3 Scholars present, perform, and/or produce their completed work after multiple revisions or rehearsals (e.g., responding to audience feedback, self-critique of recorded performance) and polishing.</p>
<p>[3-10] Defend inquiry choices and final product with clarity, consistency, and conviction.</p> <p>EK 5.1F1 Scholars effectively articulate the rationale for inquiry choices in relation to the completed work.</p> <p>EK 5.1F2 Scholars engage thoughtfully with their audiences' critiques and questions.</p>

**AP Research**  
**Unit 4: Collecting, Representing, and Analyzing Data**  
**Section 4.1: Collecting Data**

**AP CED Learning Objectives**

LO 1.5B Designing, planning, and implementing a scholarly inquiry

LO 1.5C Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.

**Aligned Daily Objectives.** Instruction and assessment will align to the following objectives:

[4-1] Design, plan, and implement a scholarly inquiry

EK 1.5B1 Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal.

EK 1.5B2 Methods of inquiry may include research methods (e.g., qualitative, quantitative, or mixed) or artistic processes (e.g., generating, conceptualizing, testing, and then refining aesthetic approaches).

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 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.

[4-2] Demonstrate perseverance through setting goals, managing time, and working independently on a long-term project.

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 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.

<b>AP Research</b> <b>Unit 4: Collecting, Representing, and Analyzing Data</b> <b>Section 4.2: Putting Data into Words-The Findings Element</b>
<b>AP CED Learning Objectives</b>
LO 2.2C Evaluating the validity of an argument.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[4-3] Evaluate the validity of an argument.</p> <p>EK 2.2C2 Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases</p> <p>EK 2.2C3 Conclusions are contextual and their validity must be affirmed, qualified, or refuted.</p>

<b>AP Research</b> <b>Unit 4: Collecting, Representing, and Analyzing Data</b> <b>Section 4.3: Choosing the Right Visual</b>
<b>AP CED Learning Objectives</b>
LO 5.1C Communicating information through appropriate media using effective techniques of design.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[4-4] Communicate information through appropriate media using effective techniques of design.</p> <p>EK 5.1C1 Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding.</p> <p>EK 5.1C2 Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.</p> <p>EK 5.1C3 Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis) according to context, purpose, and audience.</p>



<b>AP Research</b> <b>Unit 5: Analyzing Data and Drawing Conclusions</b> <b>Section 5.1: “Data, Data, Data”—The Analysis Element</b>
<b>AP CED Learning Objectives</b>
LO 2.2B Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[5-1] Evaluate the relevance and credibility of evidence used to support an argument, taking context into consideration.</p> <p>EK 2.2B1 An argument’s context (time and purpose) and situation (in relation to other arguments) inform its interpretation</p> <p>EK 2.2B2 Writers use qualitative and/or quantitative evidence (e.g., facts, data, observations, predictions, analogies, explanations, opinions) to support their claims. Evidence has varying degrees of validity.</p> <p>EK 2.2B3 Authors strategically include evidence to support their claims</p> <p>EK 2.2B4 Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).</p> <p>EK 2.2B5 Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.</p> <p>EK 2.2B6 Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own biases.</p>

<b>AP Research</b> <b>Unit 5: Analyzing Data and Drawing Conclusions</b> <b>Section 5.2: The “So What?” Factor- The Conclusion Element I</b>
<b>AP CED Learning Objectives</b>
LO 2.3A Connecting an argument to broader issues by examining the implications of the author’s claim.
LO 2.3B Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[5-2] Connect an argument to broader issues by examining the implications of the author’s claim.</p> <p>EK 2.3A1 The implications and consequences of arguments may be intended or unintended.</p>
<p>[5-3] Evaluate potential resolutions, conclusions, or solutions to problems or issues raised by an argument.</p> <p>EK 2.3B1 Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).</p>

<b>AP Research</b> <b>Unit 5: Analyzing Data and Drawing Conclusions</b> <b>Section 5.3: “Give Credit Where Credit is Due”- Bibliography</b>
<b>AP CED Learning Objectives</b>
LO 4.3A Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[5-4] Attribute knowledge and ideas accurately and ethically, using an appropriate citation style.</p> <p>EK 4.3A1 Accurate and ethical attribution enhances one’s credibility.</p> <p>EK 4.3A2 Plagiarism is a serious offense that occurs when a person presents another’s ideas or words as his or her own. Plagiarism may be avoided by acknowledging sources thoroughly and accurately.</p> <p>EK 4.3A3 Source material should be introduced, integrated, or embedded into the text of an argument.</p> <p>EK 4.3A4 Quoted and paraphrased material must be properly attributed, credited, and cited following a style manual. quoting is using the exact words of others; paraphrasing is restating an idea in one’s own words.</p> <p>EK 4.3A5 Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA).</p> <p>EK 4.3A6 Appropriation in works of art has potential legal and ethical implications that scholars need to consider (e.g., scholars must credit works that are used in visual/audio sampling, parody, choreography).</p>

<b>AP Research</b> <b>Unit 5: Analyzing Data and Drawing Conclusions</b> <b>Section 5.4: “A Fresh Pair of Eyes”—Peer Reviewing the Paper:</b>
<b>AP CED Learning Objectives</b>
LO 5.4A Engaging in peer review to provide constructive responses to one another’s work, appropriate to the stage of a project’s development.
LO 5.4B Engaging in peer review to receive and consider responses to their work.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
<p>[5-5] Engage in peer review to provide constructive responses to one another’s work, appropriate to the stage of a project’s development.</p> <p>EK 5.4A1 Peer review should be based on guidelines and defined criteria appropriate to the work.</p>
<p>[5-6] Engage in peer review to receive and consider responses to their work.</p> <p>EK 5.4B1 Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.</p> <p>EK 5.4B2 Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.</p>

<b>AP Research</b> <b>Unit 5: Analyzing Data and Drawing Conclusions</b> <b>Section 5.5: Editing the Paper</b>
<b>AP CED Learning Objectives</b>
LO 5.1B Adhering to established conventions of grammar, usage, style, and mechanics.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[5-7] Adhere to established conventions of grammar, usage, style, and mechanics. EK 5.1B1 A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery. EK 5.1B2 Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense. EK 5.1B3 Precision in word choice reduces confusion, wordiness, and redundancy. EK 5.1B4 Spelling and grammar errors detract from credibility.

<b>AP Research</b> <b>Unit 6: Preparing and Practicing the Presentation and Oral Defense</b> <b>Section 6.1: “Show Me What You Got!”—Presentation Preparation</b>
<b>AP CED Learning Objectives</b>
LO 5.1C Communicating information through appropriate media using effective techniques of design.
LO 5.1D Adapting an argument for context, purpose, and/or audience.
LO 5.1E Engaging an audience by employing effective techniques of delivery or performance.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[6-1] Communicate information through appropriate media using effective techniques of design. EK 5.1C1 Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding. EK 5.1C2 Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation. EK 5.1C3 Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis) according to context, purpose, and audience.
[6-2] Adapt an argument for context, purpose, and/or audience. EK 5.1D1 Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose. EK 5.1D2 Scholars should articulate their choices and content in a language that is not discipline-specific to communicate effectively to non experts or people outside the discipline.
[6-3] Engage 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.

<b>AP Research</b> <b>Unit 6: Preparing and Practicing the Presentation and Oral Defense</b> <b>Section 6.2: “DEFENSE!”—Oral Defense Preparation:</b>
<b>AP CED Learning Objectives</b>
LO 5.1F Defending inquiry choices and final product with clarity, consistency, and conviction.
LO 5.3C Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[6-4] Defend 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.
[6-5] Reflect on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work. EK 5.3C1 Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work. EK 5.3C2 Reflective scholars acknowledge how their inquiry processes and resulting works can be transformational for their own and others’ understanding as well as for their personal identities as scholars.

<b>AP Research</b> <b>Unit 6: Preparing and Practicing the Presentation and Oral Defense</b> <b>Section 6.3: “A Fresh Pair of Eyes”—Peer Reviewing the POD Practice</b>
<b>AP CED Learning Objectives</b>
LO 5.4A Engaging in peer review to provide constructive responses to one another’s work, appropriate to the stage of a project’s development.
LO 5.4B Engaging in peer review to receive and consider responses to their work.
<b>Aligned Daily Objectives.</b> Instruction and assessment will align to the following objectives:
[6-6] Engage in peer review to provide constructive responses to one another’s work, appropriate to the stage of a project’s development. EK 5.4A1 Peer review should be based on guidelines and defined criteria appropriate to the work.
[6-7] Engage in peer review to receive and consider responses to their work. EK 5.4B1 Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work. EK 5.4B2 Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback.