

PUBLIC SCHOOLS OF EDISON TOWNSHIP
OFFICE OF CURRICULUM AND INSTRUCTION



AP Research

Length of Course:	Full Year
Elective/Required:	Required
Schools:	High School
Eligibility:	Grade 12
Credit Value:	5 Credits
Date Approved:	August 17, 2021

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Course Description

AP Research is the second component of the AP Capstone program and is offered to students who have completed the AP Seminar course. During the course, students are required to conduct independent research based on real-world issues from multiple perspectives that plague society on the macro and micro level. This research will be based on one central research question that is as original as it is unique to the student's inquiry upon the student's observation of the real world around them. Throughout the academic year, students will be cultivating the skills and obtaining the knowledge necessary to produce and defend their scholarly work. Such skills include establishing original arguments based on vetted sources, analyzing and evaluating data that has been collected, engaging the audience in effectively written and oral process pieces, and conducting academic reflection that takes into account the student's challenges and successes throughout their inquiry. Students will document their processes and demonstrate their understanding through a process and reflection portfolio. Students will have completed the course upon successful completion of an academic paper 4,000-5,000 words and a presentation with an oral defense.

Units Of Study

Unit	Focus
1: Introduction to Research Methods	<p>Show students what they need to know, learn, or understand in effective research.</p> <p>Help students consider what questions have yet to be asked in a particular field of study (how to find the gaps in understanding that need to be filled).</p> <p>Guide research question formulation and assist in mapping how students can go about answering these questions.</p> <p>Teach various research methods and how the project goals can shape the research and the researcher's engagement with the process.</p> <p>Help students recognize what information and evidence is necessary to answer their research questions.</p>
2: Inquiry Proposal Finalization and Setting Up Research Project	<p>Apply reading strategies to complex texts in order to assess the quality and strength of the research, product, or artistic work including analyzing complex arguments, the way the author develops the main idea and line of reasoning, assessing bias, and acknowledging varying perspectives.</p>
3: Building and Developing Your Project	<p>Analyze and evaluate a variety of problems through multiple lenses while considering societal and individual patterns and trends.</p> <p>Thoroughly consider the implications and/or consequences of accepting or rejecting a particular argument.</p> <p>Evaluate the connections that exist between multiple arguments while considering other issues, questions and/or topics.</p> <p>Thoroughly evaluate and consider contradictions within or between arguments.</p> <p>Consider the perspective through which the argument has been analyzed and reflection of that decision.</p>
4: Testing Your Project and Conducting Research	<p>Analyze multiple connections that exist between types of evidence in order to develop a cohesive argument that supports a logical conclusion.</p> <p>Consider other conclusions that may also fit the scenario being considered through viable research.</p> <p>Determine how scholarly work emerges from perspective, design choices, or aesthetic rationale.</p> <p>Acknowledge and account for biases and assumptions.</p> <p>Consider the most appropriate way to acknowledge and</p>

	attribute the work of others that were used to support an original argument. Ensure the conclusions presented are original.
5: Conducting Your Research and Writing Your Paper	<p>Assess the best methods for engaging the audience-</p> <p>Determine the best medium or genre through which to reach an audience.</p> <p>Adapt written and oral presentations for different audiences and situations.</p> <p>Consider the ways communication choices affect credibility with the audience?</p> <p>Introduce revision strategies that are most appropriate to developing and refining projects at different stages.</p> <p>Teach how to provide feedback that is valuable to others and how to act upon feedback students have received.</p> <p>Demonstrate how students can benefit from reflecting on their own work.</p>

Unit 1: Introduction to Research Methods

Targeted Standards	<i>EK 1.1-1.5</i>
Unit Objectives/ Conceptual Understandings	<p><i>Students will understand that:</i></p> <p><i>EK 1.1A1: Examining the perspectives and ideas of others often leads to questions for further investigation. Inquiry begins with narrowing the scope of interest, identifying a problem or issue and its origins within that scope, and situating the problem or issue in a larger context.</i></p> <p><i>EK 1.1B1: Effective research questions lead to an examination taking into account the complexity of a problem or issue.</i></p> <p><i>EK 1.1B2: The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to complex issues.</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>EK 1.1C3: Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions.</i></p> <p><i>EK 1.1D1: Scholars explore, explain, and create.</i></p> <p><i>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.</i></p> <p><i>EK 1.1D3: Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community.</i></p> <p><i>EK 1.1E1: A research question/project goal emerges from the scholar's purpose (i.e., to explore, explain, and create).</i></p> <p><i>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).</i></p> <p><i>EK 1.2A1: Understanding comes not only through the collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, assumptions).</i></p> <p><i>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.</i></p> <p><i>EK 1.2A3: Inquiry confirms or challenges one's existing understandings, assumptions, beliefs, and/or knowledge.</i></p> <p><i>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).</i></p> <p><i>EK 1.3A2: Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary</i></p>

sources.

EK 1.3A3: Advanced search tools, Boolean logic, and keywords allow scholars to refine, focus, and/or limit their searches based on a variety of

factors (e.g., date, peer-review status, type of publication).

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.

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.

EK 1.5A1: The way the problem is posed, situated, framed, or contextualized will guide the inquiry process and influence the type of information needed and appropriate method of gathering it.

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

	<p><i>and validated data collection instruments and procedures); or could include a combination of both qualitative and quantitative (mixed).</i></p> <p><i>EK 1.5B6: Scholars analyze data or information in a variety of ways appropriate to the inquiry.</i></p> <p><i>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.</i></p> <p><i>EK 1.5B8: Descriptive or inferential statistics can be used to display and/or analyze data.</i></p> <p><i>EK 1.5B9: Scholars often organize and categorize (or code) data/information to identify patterns or themes.</i></p> <p><i>EK 1.5B10: Scholars can combine qualitative and quantitative data/information to triangulate and corroborate trends, patterns, correlations, and/or themes.</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>EK 1.5D1: Scholars have ethical and moral responsibilities when they conduct research.</i></p> <p><i>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).</i></p> <p><i>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.</i></p>
<p>Essential Questions</p>	<p>-What do I want to know, learn, or understand? -What questions have yet to be asked? -How does my research question shape how I go about trying to answer it? -How does my project goal shape the research or inquiry I engage in to achieve it? -What information/evidence do I need to answer my research question?</p>
<p>Unit Assessment</p>	<p><i>Rough Draft of Inquiry Proposal Form</i></p>

<p>Core Content Objectives</p>		<p>Instructional Action</p>	
<p>Concepts What students will know</p>	<p>Skills What students will be able to do</p>	<p>Activities/Strategies Technology Implementation Interdisciplinary Connections</p>	<p>Assessment Check Points</p>
<p>EU 1.1: Personal interest and intellectual curiosity inspire investigation of topics or issues that may or may not be clearly</p>	<p>LO 1.1A: Contextualizing and identifying the complexities of a problem or issue.</p>	<ul style="list-style-type: none"> ● Differentiate between AP Seminar goals and AP Research goals ● Build off of summer 	<ul style="list-style-type: none"> ● Mini research projects 1-3 ● Research Question Posters

<p>defined. A well-crafted investigation explores the complexity of an issue or topic. Further inquiry can lead to unexpected conclusions, resolutions, innovations, or solutions.</p> <p>EU 1.2: Strengthening understanding of a concept or issue requires questioning existing ideas, using what is known to discover what is not known, and making connections to prior knowledge.</p> <p>EU 1.3: The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.</p> <p>EU 1.4: The relevance and the credibility of the source of information is determined by the context of its use.</p> <p>EU 1.5: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.</p>	<p>LO 1.1B: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.</p> <p>LO 1.1C: Identifying a topic of inquiry.</p> <p>LO 1.1D: Articulating the purpose and significance of the scholarly inquiry.</p> <p>LO 1.1E: Developing and revising a focused research question/project goal.</p> <p>LO 1.2A: Retrieving, questioning, organizing, and using prior knowledge about a topic.</p> <p>LO 1.3A: Accessing and managing information using effective strategies.</p> <p>LO 1.4A: Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.</p> <p>LO 1.5A: Identifying the information needed for the context of the inquiry.</p> <p>LO 1.5B: Designing, planning, and implementing a scholarly inquiry.</p> <p>LO 1.5C: Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project.</p> <p>LO 1.5D: Employing ethical research practices.</p>	<p>assignments and continue gathering sources for contextualizing the topic of inquiry within the field of knowledge.</p> <ul style="list-style-type: none"> ● Preliminary inquiry proposal, Mini Research Project followed by a peer review of the proposal. ● Posters reflecting the research inquiry process will be created followed by a Gallery walk, peer view, and transcribed notes. ● Elevator Speeches will be presented followed by peer review. ● Written Reflection/Progress Write-Ups will follow major assessments ● Rough draft of the formal Inquiry Proposal Form presented to the teacher in a one-on-one interview. <p>[CR3]</p> <ul style="list-style-type: none"> ● PREP Binder [CR4a] ● [CR4b] ● Begin contacting Expert Advisors <p>[CR3] — In the classroom and independently (while possibly consulting any expert advisors), students learn and employ research and inquiry methods to develop, manage, and conduct an in-depth investigation of an area of personal interest, culminating in an academic paper of 4,000-5,000 words that includes the following elements:</p> <ul style="list-style-type: none"> ● Introduction ● Method, Process, or Approach ● Results, Product, or Findings ● Discussion, Analysis, and/or Evaluation ● Conclusion and Future Directions 	<ul style="list-style-type: none"> ● Elevator Speeches ● Reading and skill checkpoints ● Academic reflections on process ● Inquiry Proposal Form Rough Draft ● PREP Binder
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<p>Resources Essential materials, supplementary materials, links to best practice</p> <ul style="list-style-type: none"> - Purdue OWL (MLA, APA, Annotated Bibliography, basic grammar review) - Graff, Gerald, and Cathy Birkenstein. <i>They Say, I Say: The Moves that Matter in Academic Writing</i>. - Leedy, Paul D., and Jeanne Ellis Ormrod. <i>Practical Research: Planning and Design</i> - Scholarly Archives such as EBSCO and JSTOR as provided by the school libraries - Beers, Kylee and Robert Probst. <i>Notice and Note: Strategies for Close Reading</i>. - List of Accommodations and Modifications - English Language Arts Practices - NIH Guiding Principles for Ethical Research - APA Research Ethics - Strategies for Student Engagement - Evaluating and Vetting Sources
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<p>Instructional Adjustments Modifications, student difficulties, possible misunderstandings</p> <ul style="list-style-type: none"> - Student Difficulties: <ul style="list-style-type: none"> - Misunderstanding directions - Improper execution of process as instructed by teacher - Challenges with written process for academic papers and prompts related to constructing writing or grammar - Challenges with effective verbalization of ideas - Challenges with conducting research - Challenges with presentation skills - Modification: providing an alternative means of responding to prompts other than traditional academic writing such as illustrating images and/or verbal presentation of findings - Modification: distribution of notes and materials prior to a class will give the students time to prepare for a

<ul style="list-style-type: none">- Teaching AP Courses- AP Teacher Community	<p>lesson and familiarize with content before the lesson is given</p> <ul style="list-style-type: none">- Modification: teacher modeling and demonstration of techniques; provision of student samples- Modification: simplified written and verbal instruction
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Unit 2: Inquiry Proposal Finalization and Setting Up Research Project

Targeted Standards	<i>EK 2.1-2.3</i>
Unit Objectives/ Conceptual Understandings	<p><i>Students will understand that:</i></p> <p><i>EK 2.1A1: Reading critically means reading closely to identify the main idea, tone, assumptions, context, perspective, line of reasoning, and evidence used.</i></p> <p><i>EK 2.1A2: Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning.</i></p> <p><i>EK 2.1A3: Strategies active readers use to make meaning from texts include annotating, note-taking, highlighting, and reading aloud.</i></p> <p><i>EK 2.1A4: Perspectives are shared through written, spoken, visual, or performance texts. A perspective includes the writer's attitude/ tone regarding the subject and is expressed through an argument.</i></p> <p><i>EK 2.1B1: The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.</i></p> <p><i>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.</i></p> <p><i>EK 2.2A1: Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.</i></p> <p><i>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).</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>EK 2.2A5: Effective arguments acknowledge other arguments and/or respond to them with counter-arguments (e.g., concession, refutation, rebuttal).</i></p> <p><i>EK 2.2B1: An argument's context (time and purpose) and situation (in relation to other arguments) inform its interpretation.</i></p> <p><i>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.</i></p> <p><i>EK 2.2B3: Authors strategically include evidence to support their claims.</i></p> <p><i>EK 2.2B4: Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).</i></p> <p><i>EK 2.2B5: Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends.</i></p> <p><i>EK 2.2C1: An argument is valid when there is logical alignment between the line of reasoning and the conclusion.</i></p> <p><i>EK 2.2C2: Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering</i></p>

	<p><i>the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases.</i></p> <p><i>EK 2.2C3: Conclusions are contextual and their validity must be affirmed, qualified, or refuted.</i></p> <p><i>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.</i></p> <p><i>EK 2.3A1: The implications and consequences of arguments maybe intended or unintended.</i></p> <p><i>EK 2.3B1: Arguments are significant and have a real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).</i></p>
Essential Questions	<p>-What strategies will help me comprehend a text?</p> <p>-What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?</p> <p>-What biases may the author have that influence his or her perspective?</p> <p>-Does this argument acknowledge other perspectives?</p> <p>-How can I assess the quality or strength of others' research, products, or artistic works?</p>
Unit Assessment	<ul style="list-style-type: none"> - <i>Final Draft of Inquiry Proposal Form</i> - <i>Rough Draft for Literature Review</i>

Core Content Objectives		Instructional Action	
Concepts What students will know	Skills What students will be able to do	Activities/Strategies Technology Implementation Interdisciplinary Connections	Assessment Check Points
<p>EU 2.1: Authors express their ideas, perspectives, and/or arguments through their works. The first step in evaluating an author's perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.</p> <p>EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.</p> <p>EU 2.3: Arguments have implications and consequences.</p>	<p>LO 2.1A: Employing appropriate reading strategies and reading critically for a specific purposes</p> <p>LO 2.1B: Summarizing and explaining a text's main idea or aim while avoiding faulty generalizations and oversimplification.</p> <p>LO 2.2A: Explaining and analyzing the logic and line of reasoning of an argument.</p> <p>LO 2.2B: Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.</p>	<ul style="list-style-type: none"> ● Rough Draft Inquiry Proposal Form finalized and submitted. ● Expert Advisor sought and secured where appropriate. ● PREP reflections on the research process. [CR4a] [CR4a] — Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their thought processes. ● Continual immersion in research. ● Final Draft of the Inquiry Proposal Form submitted by November 30th. ● Write a new draft of literature review using aligned sources 	<ul style="list-style-type: none"> ● Second draft of Inquiry Proposal Form ● Rough Draft of Literature Review ● Annotated Bibliographies ● Reflections ● PREP Binder ● Work In Progress Meetings (Ongoing) ● Posters ● Review sample papers ● Evaluation of sources

	<p>LO 2.2C: Evaluating the validity of an argument.</p> <p>LO 2.2D: Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives.</p> <p>LO 2.3A: Connecting an argument to broader issues by examining the implications of the author's claim.</p> <p>LO 2.3B: Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument.</p>	<p>in the annotated bibliography to situate the topic and the topic and argument while identifying the gap.</p> <ul style="list-style-type: none"> ● Review sample papers for in-depth analysis of the literature review component. ● One-on-one interviews with the teacher and/or expert advisor. ● PREP reflections of the research process. [CR4a] <p>[CR4a] — Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their thought processes.</p>	
<p>Resources</p> <p>Essential materials, supplementary materials, links to best practice</p> <ul style="list-style-type: none"> - Purdue OWL (MLA, APA, Annotated Bibliography, basic grammar review) - Graff, Gerald, and Cathy Birkenstein. They Say, I Say: The Moves that Matter in Academic Writing. - Leedy, Paul D., and Jeanne Ellis Ormrod. Practical Research: Planning and Design - Scholarly Archives such as EBSCO and JSTOR as provided by the school libraries - Beers, Kylene and Robert Probst. Notice and Note: Strategies for Close Reading. - List of Accommodations and Modifications - English Language Arts Practices - NIH Guiding Principles for Ethical Research - APA Research Ethics - Strategies for Student Engagement - Evaluating and Vetting Sources - Teaching AP Courses - AP Teacher Community 		<p>Instructional Adjustments</p> <p>Modifications, student difficulties, possible misunderstandings</p> <ul style="list-style-type: none"> - Student Difficulties: <ul style="list-style-type: none"> - Misunderstanding directions - Improper execution of process as instructed by teacher - Challenges with written process for academic papers and prompts related to constructing writing or grammar - Challenges with effective verbalization of ideas - Challenges with conducting research - Challenges with presentation skills - Modification: providing an alternative means of responding to prompts other than traditional academic writing such as illustrating images and/or verbal presentation of findings - Modification: distribution of notes and materials prior to a class will give the students time to prepare for a lesson and familiarize with content before the lesson is given - Modification: teacher modeling and demonstration of techniques; provision of student samples - Modification: simplified written and verbal instruction 	

Unit 3: Building and Developing Your Project

Targeted Standards	<i>EK 3.1-3.2</i>
Unit Objectives/ Conceptual Understandings	<p><i>Students will understand that:</i></p> <p><i>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.</i></p> <p><i>EK 3.1A2: Perspectives are not always oppositional; they may be concurring, complementary, or competing.</i></p> <p><i>EK 3.1A3: Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.</i></p> <p><i>EK 3.2A1: Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic.</i></p> <p><i>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.</i></p>
Essential Questions	<p>-How might others see a problem or issue differently?</p> <p>-What patterns or trends can be identified among the arguments about this issue?</p> <p>-What are the implications and/or consequences of accepting or rejecting a particular argument?</p> <p>-How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?</p> <p>-How can I explain contradictions within or between arguments?</p> <p>-From whose perspective is this information being presented, and how does that affect my evaluation?</p>
Unit Assessment	<i>Revision of Literature Review and Rough Draft of Academic Paper</i>

Core Content Objectives		Instructional Action	
Concepts What students will know	Skills What students will be able to do	Activities/Strategies Technology Implementation Interdisciplinary Connections	Assessment Check Points
<p>EU 3.1: Different perspectives often lead to competing and alternative arguments. The complexity of an issue emerges when people bring these differing, multiple perspectives to the conversation.</p> <p>EU 3.2: Not all arguments are equal; some arguments are more credible/valid than others. Through evaluating others’</p>	<p>LO 3.1A: Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.</p> <p>LO 3.2A: Evaluating alternate, opposing, or competing perspectives or arguments, by considering their implications and limitations.</p>	<ul style="list-style-type: none"> ● Continual immersion in research. ● One-on-one interviews with the teacher and/or expert advisor. ● PREP reflections of the research process. [CR4a] <p>[CR4a] — Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their</p>	<ul style="list-style-type: none"> ● Rough draft of method, process, or approach ● WIP meetings ● Application of research method ● PREP Binder ● Academic Reflections ● Revision of Literature Review and Rough Draft of Paper

<p>arguments, one's own argument can be situated within a larger conversation</p>		<p>thought processes.</p> <ul style="list-style-type: none"> ● Begin drafts of academic paper, focusing first on revised literature review and method sections of the paper. [CR3] ● Complete any additional experiments, surveys, products, and interviews used for support of research focus 	
<p>Resources Essential materials, supplementary materials, links to best practice</p> <ul style="list-style-type: none"> - Purdue OWL (MLA, APA, Annotated Bibliography, basic grammar review) - Graff, Gerald, and Cathy Birkenstein. <i>They Say, I Say: The Moves that Matter in Academic Writing</i>. - Leedy, Paul D., and Jeanne Ellis Ormrod. <i>Practical Research: Planning and Design</i> - Scholarly Archives such as EBSCO and JSTOR as provided by the school libraries - Beers, Kyrene and Robert Probst. <i>Notice and Note: Strategies for Close Reading</i>. - List of Accommodations and Modifications - English Language Arts Practices - NIH Guiding Principles for Ethical Research - APA Research Ethics - Strategies for Student Engagement - Evaluating and Vetting Sources - Teaching AP Courses - AP Teacher Community 		<p>Instructional Adjustments Modifications, student difficulties, possible misunderstandings</p> <ul style="list-style-type: none"> - Student Difficulties: <ul style="list-style-type: none"> - Misunderstanding directions - Improper execution of process as instructed by teacher - Challenges with written process for academic papers and prompts related to constructing writing or grammar - Challenges with effective verbalization of ideas - Challenges with conducting research - Challenges with presentation skills - Modification: providing an alternative means of responding to prompts other than traditional academic writing such as illustrating images and/or verbal presentation of findings - Modification: distribution of notes and materials prior to a class will give the students time to prepare for a lesson and familiarize with content before the lesson is given - Modification: teacher modeling and demonstration of techniques; provision of student samples - Modification: simplified written and verbal instruction 	

Unit 4: Testing Your Project and Conducting Research

Targeted Standards	EK 4.1-4.5
Unit Objectives/ Conceptual Understandings	<p><i>Students will understand that:</i></p> <p>EK 4.1A1: Effective arguments use reason and evidence to convey a perspective, point of view, or some version of the truth that is stated or implied in the thesis and/or conclusion.</p> <p>EK 4.1A2: Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.</p> <p>EK 4.1A3: Qualifiers place limits on how far a claim may be carried. Effective arguments acknowledge these limits, increasing credibility by reducing overgeneralization or oversimplification.</p> <p>EK 4.1A4: Effective arguments may acknowledge other arguments and/or respond to them with 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 the 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>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>EK 4.2A1: Evidence can be collected from print and nonprint sources (e.g., libraries, museums, archives), experts, or data gathered in the field (e.g., interviews, questionnaires, observations).</p> <p>EK 4.2A2: Evidence is used to support the claims and reasoning of an argument. Compelling evidence is sufficient, accurate, relevant, current, and credible to support the conclusion.</p> <p>EK 4.2A3: Evidence is strategically chosen based on context, purpose, and audience. Evidence may be used to align an argument with authority; to define a concept, illustrate a process, or clarify a statement; to set a mood; to provide an example; to amplify or qualify a point.</p> <p>EK 4.2A4: The evidence selected and attributed contributes to establishing the credibility of one's own argument.</p> <p>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>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</p>

	<p>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> <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>
Essential Questions	<p>-How do I connect and analyze the evidence in order to develop an argument and support a conclusion?</p> <p>-Are there other conclusions I should consider?</p> <p>-How does my scholarly work emerge from my perspective, design choices, or aesthetic rationale?</p> <p>-How do I acknowledge and account for my own biases and assumptions?</p> <p>-What is the most appropriate way to acknowledge and attribute the work of others that were used to support my argument? How do I ensure the conclusions I present are my own?</p>
Unit Assessment	<ul style="list-style-type: none"> - <i>Completed Rough Draft of Academic Paper</i> - <i>Composition of Mock Multimedia Presentations</i>

Core Content Objectives		Instructional Action	
Concepts What students will know	Skills What students will be able to do	Activities/Strategies Technology Implementation Interdisciplinary Connections	Assessment Check Points
<p>EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that has been selected for the intended audience, purpose, and situation.</p> <p>EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.</p> <p>EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.</p> <p>EU 4.4: Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.</p> <p>EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities and consequences.</p>	<p>LO 4.1A: Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.</p> <p>LO 4.1B: Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.</p> <p>LO 4.2A: Interpreting, using, and synthesizing qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, nonprint) to develop and support an argument.</p> <p>LO 4.2B: Providing insightful and cogent commentary that links evidence with claims. The scholarly community requires acknowledging and respecting the prior findings and contributions of others.</p> <p>LO 4.3A: Attributing knowledge and ideas accurately and ethically,</p>	<ul style="list-style-type: none"> • Complete a full rough draft of the academic paper by the end of February. • [CR3] — In the classroom and independently (while possibly consulting any expert advisors), students learn and employ research and inquiry methods to develop, manage, and conduct an in-depth investigation of an area of personal interest, culminating in an academic paper of 4,000-5,000 words that includes the following elements: <ul style="list-style-type: none"> • Introduction • Method, Process, or Approach • Results, Product, or Findings • Discussion, Analysis, and/or Evaluation • Conclusion and Future Directions • Bibliography • Self-assess rough draft of academic paper according to the rubric, 	<ul style="list-style-type: none"> • Peer Evaluations with WIP Meetings • PREP Binder • Completion of Full Rough Draft of Academic Paper • Meetings with Expert Advisor • Plagiarism Check Points

	<p>using an appropriate citation style. LO 4.4A: Extending an idea, question, process, or product to innovate or create new understandings. LO 4.5A: Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.</p>	<p>making sure that all rubric components are fulfilled. [CR3]</p> <ul style="list-style-type: none"> • Offer a rough draft of an academic paper for peer review. • Individually and through peer review, proofread, edit, and revise the academic paper. • Submit a paper to Turnitin.com and revise any incidental plagiarism. • Ancillary products, performances, and projects submitted for separate classroom assessment. • Begin planning, preparing, and practicing multimedia presentations. • Begin preparing for and practicing for oral defense. • [CR3] — In the classroom and independently (while possibly consulting any expert advisors), students learn and employ research and inquiry methods to develop, manage, and conduct an in-depth investigation of an area of personal interest, culminating in an academic paper of 4,000-5,000 words that includes the following elements: <ul style="list-style-type: none"> ○ Introduction ○ Method, Process, or Approach ○ Results, Product, or Findings ○ Discussion, Analysis, and/or Evaluation ○ Conclusion and Future Directions ○ Bibliography 	
<p>Resources Essential materials, supplementary materials, links to best practice</p> <ul style="list-style-type: none"> - Purdue OWL (MLA, APA, Annotated Bibliography, basic grammar review) 		<p>Instructional Adjustments Modifications, student difficulties, possible misunderstandings</p> <ul style="list-style-type: none"> - Student Difficulties: <ul style="list-style-type: none"> - Misunderstanding directions 	

<ul style="list-style-type: none"> - Graff, Gerald, and Cathy Birkenstein. They Say, I Say: The Moves that Matter in Academic Writing. - Leedy, Paul D., and Jeanne Ellis Ormrod. Practical Research: Planning and Design - Scholarly Archives such as EBSCO and JSTOR as provided by the school libraries - Beers, Kylee and Robert Probst. Notice and Note: Strategies for Close Reading. - List of Accommodations and Modifications - English Language Arts Practices - NIH Guiding Principles for Ethical Research - APA Research Ethics - Strategies for Student Engagement - Evaluating and Vetting Sources - Teaching AP Courses - AP Teacher Community 	<ul style="list-style-type: none"> - Improper execution of process as instructed by teacher - Challenges with written process for academic papers and prompts related to constructing writing or grammar - Challenges with effective verbalization of ideas - Challenges with conducting research - Challenges with presentation skills - Modification: providing an alternative means of responding to prompts other than traditional academic writing such as illustrating images and/or verbal presentation of findings - Modification: distribution of notes and materials prior to a class will give the students time to prepare for a lesson and familiarize with content before the lesson is given - Modification: teacher modeling and demonstration of techniques; provision of student samples - Modification: simplified written and verbal instruction
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Unit 5: Conducting Your Research and Writing Your Paper

Targeted Standards	EK 5.1-5.4
Unit Objectives/ Conceptual Understandings	<p>EK 5.1A1[R]: Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:</p> <ul style="list-style-type: none"> › Introduction: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/project goal, and 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 the original research question/project goal; discusses the implications and limitations of the research or creative work › Conclusion and Future Directions: reflect on the process and how this project could impact the field; discusses possible next steps › Bibliography: provides a complete list of sources cited and consulted in the appropriate disciplinary style <p>EK 5.1A2: Coherence is achieved when the elements and ideas in an argument flow logically and smoothly. Transitions are used to move the audience from one element or idea to another by illustrating the relationship between the elements or ideas.</p> <p>EK 5.1B1: A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery. EK 5.1B2: Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense.</p> <p>EK 5.1B2: Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense.</p> <p>EK 5.1B3: Precision in word choice reduces confusion, wordiness, and redundancy.</p> <p>EK 5.1B4: Spelling and grammar errors detract from credibility.</p> <p>EK 5.1C1: Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding.</p> <p>EK 5.1C2: Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.</p> <p>EK 5.1C3: Effective communication requires choosing appropriate media (e.g., essay, poster, oral presentation, documentary, research report/thesis) according to context, purpose, and audience.</p> <p>EK 5.1D1: Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose. 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>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>EK 5.1F1: Scholars effectively articulate the rationale for inquiry choices in relation to the completed work.</p> <p>EK 5.1F2: Scholars engage thoughtfully with their audiences' critiques and questions.</p> <p>EK 5.2A1: Knowing and communicating one's strengths and challenges to a group allows one's contributions to be more effective</p> <p>EK 5.2B1: Teams are built around tasks. Low-risk team building activities and simulations enhance a team's performance.</p> <p>EK 5.2B2: Teams function at their best when they understand the diversity of their social-cultural perspectives, talents, and skills.</p> <p>EK 5.2B3: Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation.</p> <p>EK 5.2B4: Effective teams consider the use of online collaborative tools.</p> <p>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>EK 5.3B1: Reflection acknowledges the impact of actions on both the group and individual contributions, noting the reasons for such actions, assumptions made, and whether or not such actions and assumptions hindered or helped the achievement of the group's and individuals' tasks.</p> <p>K 5.3C1: Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work.</p> <p>EK 5.3C2: Reflective scholars acknowledge how their inquiry processes and resulting works can be transformational for their own and others' understanding as well as for their personal identities as scholars.</p> <p>EK 5.4A1: Peer review should be based on guidelines and defined criteria appropriate to the 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>
Essential Questions	<ul style="list-style-type: none"> - How can I best appeal to and engage my audience? - What is the best medium or genre through which to reach my audience? - How might I adapt my written and oral presentations for different audiences and situations? - How might my communication choices affect my credibility with my audience? - Which revision strategies are most appropriate to developing and refining my project at different stages? - How do I provide feedback that is valuable to others? How do I act upon feedback I have received? - How can I benefit from reflecting on my own work?
Unit Assessment	<ul style="list-style-type: none"> - Completed Academic Paper - Multimedia Presentation and Oral Defense

Core Content Objectives		Instructional Action	
Concepts What students will know	Skills What students will be able to do	Activities/Strategies Technology Implementation Interdisciplinary Connections	Assessment Check Points
<p>EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on the audience, purpose, and context.</p> <p>EU 5.2: Teams are most effective when they draw on the diverse perspectives, skills, and backgrounds of team members to address complex, open-ended problems.</p> <p>EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation</p>	<p>LO 5.1A[R]: Planning and producing a cohesive academic paper, considering the audience, context, and purpose</p> <p>LO 5.1B: Adhering to established conventions of grammar, usage, style, and mechanics.</p> <p>LO 5.1C: Communicating information through appropriate media using effective techniques of design.</p> <p>LO 5.1D: Adapting an argument for context, purpose, and/or audience.</p> <p>LO 5.1E: Engaging an</p>	<ul style="list-style-type: none"> ● Students submit academic papers to the College Board Digital Portfolio for teacher assessment by March 30. [CR3] ● Students contact expert advisors to go over finite details of research of most current drafts for accuracy and relevance of research. ● Students plan and design a multimedia presentation. ● Students practice, individually and with peers, their presentations and oral defense. ● Multimedia presentations 	<ul style="list-style-type: none"> ● Completed Academic Paper ● Multimedia Presentation ● Mock Oral Defense ● Peer Review of written and verbal components ● Academic Reflection ● PREP Binder ● WIP Meetings

<p>of personal conclusions and their implications. EU 5.4: Scholars perform, present, and/or produce their work within a larger community. Throughout the inquiry process, scholars interact with and benefit from the scholarly community through thoughtful engagement with the opinions and critiques of others.</p>	<p>audience by employing effective techniques of delivery or performance. LO 5.1F: Defending inquiry choices and final product with clarity, consistency, and conviction. LO 5.2A: Providing individual contributions to an overall collaborative effort to accomplish a task or a goal. LO 5.2B: Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex open-ended problems. LO 5.3A: Reflecting on and revising their own writing, thinking, and creative processes. LO 5.3B: Reflecting on experiences of collaborative effort. LO 5.3C: Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work. 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.</p>	<p>and oral defense begin April 1.</p> <ul style="list-style-type: none"> ● The teacher enters all scores in the College Board Digital Portfolio April 15-30. [CR5] — Students develop and deliver a presentation (using an appropriate medium) and oral defense to a panel on their research processes, method, and findings. [CR3] — In the classroom and independently (while possibly consulting any expert advisors), students learn and employ research and inquiry methods to develop, manage, and conduct an in-depth investigation of an area of personal interest, culminating in an academic paper of 4,000-5,000 words that includes the following elements: <ul style="list-style-type: none"> ● Introduction ● Method, Process, or Approach ● Results, Product, or Findings ● Discussion, Analysis, and/or Evaluation ● Conclusion and Future Directions ● Bibliography <ul style="list-style-type: none"> ● AP Research students share their work with AP Seminar students. ● Students research other venues for possible submission/publication of their work. ● Students showcase their work at the district's annual AP Showcase. ● Students submit the final PREP in a one-on-one exit interview with the teacher. [CR4a] 	
<p>Resources Essential materials, supplementary materials, links to best practice</p>		<p>Instructional Adjustments Modifications, student difficulties, possible misunderstandings</p> <p>- Student Difficulties:</p>	

<ul style="list-style-type: none"> - Purdue OWL (MLA, APA, Annotated Bibliography, basic grammar review) - Graff, Gerald, and Cathy Birkenstein. <i>They Say, I Say: The Moves that Matter in Academic Writing</i>. - Leedy, Paul D., and Jeanne Ellis Ormrod. <i>Practical Research: Planning and Design</i> - Scholarly Archives such as EBSCO and JSTOR as provided by the school libraries - Beers, Kylene and Robert Probst. <i>Notice and Note: Strategies for Close Reading</i>. - List of Accommodations and Modifications - English Language Arts Practices - NIH Guiding Principles for Ethical Research - APA Research Ethics - Strategies for Student Engagement - Evaluating and Vetting Sources - Teaching AP Courses - AP Teacher Community 	<ul style="list-style-type: none"> - Misunderstanding directions - Improper execution of process as instructed by teacher - Challenges with written process for academic papers and prompts related to constructing writing or grammar - Challenges with effective verbalization of ideas - Challenges with conducting research - Challenges with presentation skills - Modification: providing an alternative means of responding to prompts other than traditional academic writing such as illustrating images and/or verbal presentation of findings - Modification: distribution of notes and materials prior to a class will give the students time to prepare for a lesson and familiarize with content before the lesson is given - Modification: teacher modeling and demonstration of techniques; provision of student samples - Modification: simplified written and verbal instruction
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