High School AP Research Curriculum

Course Description: The AP Capstone Research course is an inquiry-based course that aims to engage students in scholarly research with the end goal of making a unique contribution to that conversation. Students are encouraged to investigate real-world topics of interest. This course is designed around six essential skills and their development—critical thinking and reasoning, critical reading, inquiry and research, argumentation, communicating publicly, and collaboration. Students will be working toward the completion of a scholarly research paper of 4,000-5,000 words and a 15-20 minute presentation with oral defense. There is no end-of-course examination administered by the AP College Board; rather, a score is assigned from the culmination of both paper and presentation. This course places great emphasis on academic reading, writing, and presenting. Students are encouraged to seek a consultant in her/his field of interest; however, this is not mandatory and will depend upon the student’s research question.
### Scope and Sequence:

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Unit</th>
<th>Instructional Topics</th>
</tr>
</thead>
</table>
| 4 Weeks (Split Block) | Research Question Development | Topic 1: Generating Ideas  
                      |                                                                                      | Topic 2: PREP Journal |
| 4 Weeks (Split Block) | Literature Review            | Topic 1: Researching  
                      |                                                                                      | Topic 2: Annotated Bibliography  
                      |                                                                                      | Topic 3: Literature Review |
| 4 Weeks (Split Block) | Research Method/Rationale    | Topic 1: Methods for Research  
                      |                                                                                      | Topic 2: Rationale for Choosing a Method  
                      |                                                                                      | Topic 3: Research Proposal |
| 5-7 Weeks (Split Block) |                             | Conducting Research                                                                  |
| 4-6 Weeks (Split Block) |                             | Writing the Research Article                                                          |
| 4-5 Weeks (Split Block) |                             | Creating the Presentation                                                            |
Unit 1: Research Question Development

Subject: AP Research
Grade: 12
Name of Unit: Understanding the task and Developing a Solid Research Question
Length of Unit: About four weeks

Overview of Unit: The purpose of this unit is to begin asking curiosity questions and exploring potential answers and gaps to those questions. By the end of the unit, students should have at least one but no more than two questions that drive their research. Additionally, students should be open to discovery versus driven by one “answer.” This unit begins the staging and processes for our PREP document.

Big ideas for the Unit:
● Question and Explore

Supporting Standards:
● Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).
  ○ Identify and define authentic problems and significant questions for investigation.
  ○ Plan and manage activities to develop a solution or complete a project.
  ○ Collect and analyze data to identify solutions and/or make informed decisions.
  ○ Use multiple processes and diverse perspectives to explore alternative solutions.

Essential Questions:
● What questions have yet to be asked that would allow me to know more, learn more, or understand more/differently?
● How does my research question shape how I go about trying to answer it?
● How might others see the problem or issue differently?
● How might others see the problem or issue differently?

Enduring Understandings
● EU 1.1: Personal interest and intellectual curiosity inspire investigation of topics or issues that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further inquiry can lead to unexpected conclusions, resolutions, innovations, or solutions.
● EU 1.2: Strengthening understanding of a concept or issue requires questioning existing ideas, using what is known to discover what is not known, and making connections to prior knowledge.
- EU 1.3: The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.

### Unit Vocabulary:

<table>
<thead>
<tr>
<th>Academic Cross-Curricular Words</th>
<th>Content/Domain Specific</th>
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</thead>
<tbody>
<tr>
<td>Academic curiosity</td>
<td>Gap: where is the “gap” in the research?</td>
</tr>
<tr>
<td></td>
<td>PREP document</td>
</tr>
<tr>
<td></td>
<td>Seminal text</td>
</tr>
</tbody>
</table>
Engaging Experience 1

Title: Generating Ideas to formulate a Workable Research Question

Suggested Length of Time: Ongoing for 3.5 weeks

Big Ideas Addressed:
- Question and Explore

Supporting Standards:
- Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).
  - Identify and define authentic problems and significant questions for investigation.
  - Plan and manage activities to develop a solution or complete a project.
  - Collect and analyze data to identify solutions and/or make informed decisions.
  - Use multiple processes and diverse perspectives to explore alternative solutions.

Detailed Description/Instructions: The primary purpose of these weeks it to get students to brainstorm multiple curiosities, see what the academic community is already saying about these curiosities and finding one the student is truly curious about.

Bloom’s Levels: Apply (DOK 3), Analyze (4), and Evaluate (4) and Create (1)

Webb’s DOK: 3
**Engaging Experience 1**
**Title:** Prep Journal
**Suggested Length of Time:** 1st Semester; One entry per day of class each week.

**Big Ideas Addressed:**
- Question and Explore

**Detailed Description/Instructions:** This Journal can take different shapes and can be kept electronically or via paper and pencil. While students are researching and formulating questions, they are documenting that process on a daily basis.

**Bloom’s Levels:** Apply (DOK 3), Analyze (4), and Evaluate (4) and Create (2)

**Webb’s DOK:** 3
Engaging Scenario

**Engaging Scenario** (An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.)

The culminating activity is an informal one where each student shares his/her potential question/s and what he/she has found regarding resources (seminal texts); the class then responds with things to think about; potential mishaps, and potential things to think about/revise.

**Rubric for Engaging Scenario:** The grade here is simple: did the student have a potentially viable research question and one seminal text that he/she found that would give insight into the question?
## Summary of Engaging Learning Experiences for Topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Engaging Experience Title</th>
<th>Description</th>
<th>Suggested Length of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generating Ideas</td>
<td>Generating Ideas to formulate a Workable Research Question</td>
<td>The primary purpose of these weeks it to get students to brainstorm multiple curiosities, see what the academic community is already saying about these curiosities and finding one the student is truly curious about.</td>
<td>Ongoing for 3.5 weeks</td>
</tr>
<tr>
<td>PREP Journal</td>
<td>Prep Journal</td>
<td>This Journal can take different shapes and can be kept electronically or via paper and pencil. While students are researching and formulating questions, they are documenting that process on a daily basis.</td>
<td>First Semester: One entry per day of class each week</td>
</tr>
</tbody>
</table>
Unit 2: Literature Review

Subject: AP Research
Grade: 12
Name of Unit: Literature Review
Length of Unit: About four weeks
Overview of Unit: The purpose of this unit is to find about 20 credible sources that give the student insight into the field’s research and voices regarding the student’s topic and question. Students then should write an annotated bibliography, a research proposal and a literature review. One of the 20 sources should be a seminal voice/text.

Big Ideas for the Unit:
- Understand and Analyze
- Evaluate Multiple Perspectives
- Synthesize Ideas

Supporting Standards:
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.
- Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).
  - Identify and define authentic problems and significant questions for investigation.
  - Plan and manage activities to develop a solution or complete a project.
  - Collect and analyze data to identify solutions and/or make informed decisions.
  - Use multiple processes and diverse perspectives to explore alternative solutions.

Essential Questions:
- What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- What biases may the author have that influence his or her perspective?
- Does this argument acknowledge other perspectives?
- How can I assess the quality or strength of others’ research, products, or artistic works?
- Are there other conclusions I should consider?
- What is the most appropriate way to acknowledge and attribute the work of others that was used to support my argument? How do I ensure the conclusions I present are my own?

**Enduring Understandings:**
- EU 2.1: Authors express their ideas, perspectives, and/or arguments through their works. The first step in evaluating an author’s perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.
- EU 2.2: Authors choose evidence to shape and support their arguments. Individuals evaluate the line of reasoning and evidence to determine to what extent they believe or accept an argument.
- EU 2.3: Arguments have implications and consequences.
- EU 3.1: Different perspectives often lead to competing and alternative arguments. The complexity of an issue emerges when people bring these differing, multiple perspectives to the conversation.
- EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.

**Unit Vocabulary:**

<table>
<thead>
<tr>
<th>Academic Cross-Curricular Words</th>
<th>Content/Domain Specific</th>
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</thead>
<tbody>
<tr>
<td>Literature Review</td>
<td>Gap in research/Contribute to the conversation</td>
</tr>
<tr>
<td>Annotated Bibliography</td>
<td></td>
</tr>
<tr>
<td>Research Proposal</td>
<td>Consultant (introduced)</td>
</tr>
<tr>
<td>Argument</td>
<td></td>
</tr>
<tr>
<td>Implications/Consequences</td>
<td></td>
</tr>
<tr>
<td>Line of reasoning</td>
<td></td>
</tr>
<tr>
<td>Seminal Text</td>
<td></td>
</tr>
<tr>
<td>Scholarly Research</td>
<td></td>
</tr>
</tbody>
</table>
Topic 1: Researching

Engaging Experience 1
Title: Researching
Suggested Length of Time: One Week

Big Ideas Addressed:
- Understand and Analyze
- Evaluate Multiple Perspectives

Supporting Standards:
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.
- Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).
  - Identify and define authentic problems and significant questions for investigation.
  - Plan and manage activities to develop a solution or complete a project.
  - Collect and analyze data to identify solutions and/or make informed decisions.
  - Use multiple processes and diverse perspectives to explore alternative solutions.

Detailed Description/Instructions: The purpose of this topic is to differentiate ways of researching, reintroduce Ebsco Host, and continue adding to PREP journal. A review of the terms from Seminar including Argument, Line of Reasoning, Implication/consequence, perspectives, and credibility. Students will be at different places in this process, so conferencing and peer sharing are crucial.

Bloom’s Levels and Webb’s DOK: Understand, (Level 2); Analyze (4); Evaluate (4)
Rubric: Conference and Prep Journal Check
**Topic 2: Annotated Bibliography**

**Engaging Experience 1**

**Title:** Annotated Bibliography

**Suggested Length of Time:** 1-2 weeks

**Big Ideas Addressed:**
- Understand and Analyze
- Evaluate Multiple Perspectives

**Supporting Standards:**
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.

**Detailed Description/Instructions:** The purpose of the Annotated Bibliography is so students can begin to articulate the nuances of each of their sources. Instructors are able to determine the specific sections for annotation; however, each entry must begin with source’s citation in the appropriate citation style.

**Bloom's Levels and Webb’s DOK:** Understand (3); Apply (4); Analyze (4); Evaluate (3); Create (3)

**Rubric:** Grading Sheet for Annotated Bibliography:

**Citation:**
- Does each annotation begin with a cited source?
- Is each citation correctly formatted according to the appropriate style guide?

**Summary:**
- Does each citation have a paragraph of summary (line of reasoning for AP Seminar)?
- Is there a clearly articulated anchor statement as the first sentence of each summary?
- Is each summary clearly written?
- Does each summary elaborate on the main points of the source?
- Does each summary use quotation snippets to enhance the summary?
- Does it give a clear picture of what this source is about?
- Is each summary written by a 17/18 year old voice or does it read as an abstract?

**Evaluation of Credibility**
- Does each citation have a paragraph of evaluation (credibility for AP Seminar)?
- Are the credibility paragraphs written clearly?
- Does each evaluate the source for effectiveness, credibility, limitations, red flags, etc?
- Does each use to quotation snippets to enhance the evaluation?
Potential Connection to Student Question
  ● Does each citation have a paragraph of application to the potential research topic?
  ● Does each demonstrate the writer/research has thought about the potential and possible drawbacks of the source?

Holistic Viewing of Document
  ● Is the document presented in alphabetical order?
  ● Is the document free from grammatical errors?
  ● Are the required number of entries present?

2 points for a “yes” answer; 1 point for a “kind of” answer; 0 points for a “no” answer.

______ /36
Engaging Experience 1

Title: Literature Review

Suggested Length of Time: Scaffolded with Annotated Bib for the remaining two weeks.

Big Ideas Addressed:
  ● Synthesize Ideas

Detailed Description/Instructions: The purpose of this topic is for students to synthesize into one document all of the sources that speak to their curiosity.

Bloom’s Levels and Webb’s DOK: Understand (4); Apply (4); Analyze (4); Evaluate (4); and Create (4).

Rubric: Lines 2, 3, 5, and 7 of the College Board’s Academic Paper Rubric.
Engaging Scenario

Engaging Scenario (An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.)

The engaging scenario is the Literature Review itself, which situates itself as a final draft intended for the reading audience of multi-disciplined college professors and high school instructors.

Rubric for Engaging Scenario:
Please refer to lines 2, 3, 5 and 7 of the College Board’s Academic Paper Rubric for AP Research.
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<td>Research</td>
<td>Researching</td>
<td>The purpose of this topic is to differentiate ways of researching, reintroduce Ebsco Host, and continue adding to PREP journal. A review of the terms from Seminar including Argument, Line of Reasoning, Implication/consequence, perspectives, and credibility. Students will be at different places in this process, so conferencing and peer sharing are crucial.</td>
<td>1 Week</td>
</tr>
<tr>
<td>Annotated Bibliography</td>
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<td>The purpose of the Annotated Bibliography is so students can begin to articulate the nuances of each of their sources. Instructors are able to determine the specific sections for annotation; however, each entry must begin with source’s citation in the appropriate citation style.</td>
<td>1-2 Weeks</td>
</tr>
<tr>
<td>Literature Review</td>
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<td>The purpose of this topic is for students to synthesize into one document all of the sources that speak to their curiosity.</td>
<td>Scaffolded with Annotated Bib for the remaining two weeks.</td>
</tr>
</tbody>
</table>
Unit 3: Research Method/Rationale

Subject: AP Research
Grade: 12
Name of Unit: Research Methods
Length of Unit: 4 Weeks

Overview of Unit: The purpose of this unit is complex. Students will need to begin thinking about their argument, what they can contribute to the academic discussion. Students will also need to identify/define research methods to the end of choosing the best method to accomplish their goal or aide in their contribution. Additionally, students will draft and finalize their research proposal, which is a requirement from the College Board.

Big ideas for the Unit:
● Question and Explore
● Understand and Analyze
● Evaluate Multiple Perspectives
● Synthesize Ideas

Supporting Standards:
● Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  ○ Plan strategies to guide inquiry.
  ○ Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  ○ Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  ○ Process data and report results.

Essential Questions:
● How does my project goal shape the research or inquiry in which to achieve it?
● What patterns/trends can be identified among the arguments and what questions have yet to be asked?
● How do I connect/analyze the evidence in order to develop an argument and support a conclusion?
● How does my scholarly work emerge from my perspective, design choices, or aesthetic rationale?
● How do I attribute the work of others while still ensuring the conclusions presented are my own while also accounting for my own biases and assumptions?
Enduring Understandings:

- EU 1.4 There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.
- EU 3.2: Not all arguments are equal; some arguments are more credible/valid than others. Through evaluating others’ arguments, one’s own argument can be situated within a larger conversation.
- EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.
- EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.

Unit Vocabulary:

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<tr>
<td>Qualitative/Quantitative data</td>
<td>Consultant</td>
</tr>
<tr>
<td>Method for Conducting Research</td>
<td>Research Proposal</td>
</tr>
</tbody>
</table>

Resources for Vocabulary Development: College Board training spiral
Topic 1: Methods for Research

Engaging Experience 1
Title: Methods of Research
Suggested Length of Time: 1 week

Big Ideas Addressed:
- Understand and Analyze

Supporting Standards:
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.

Detailed Description/Instructions: The purpose of this topic is expose students to the various types of qualitative and quantitative research methods and then ask them to apply those methods to either a common text and/or texts that the students used in their Annotated Bibliographies.

Bloom’s Levels; Webb’s DOK: Remember (1) and Understand (1)
Rubric: Checks for understanding are big group and via 1:1 conferences.
Engaging Experience 1
Title: Rationale for Choosing a Method
Suggested Length of Time: 1-2 Weeks

Big Ideas Addressed:
- Question and Explore
- Synthesize
- Team, Transform, Transmit

Detailed Description/Instructions: The purpose of this topic is for students to choose a research method that best aligns with the goal of their research and, thus, its contribution to the academic conversation. Students must articulate the rationale for choosing their method or combination of methods.

Bloom’s Levels; Webb’s DOK: Understand (4); Apply (3); Create (4)

Rubric: Checks for understanding take place via individual conferences, PREP notebook entries, and peer input.
**Engaging Experience 1**

**Title:** Research Proposal

**Suggested Length of Time:** 1-2 weeks

**Big Ideas Addressed:**
- Question/Explore
- Understand and Analyze
- Evaluation Multiple Perspectives
- Synthesis

**Supporting Standards:**
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.

**Detailed Description/Instructions:** The purpose of this topic is for students to articulate the foundations for their research while synthesizing the work done during the semester.

**Bloom’s Levels; Webb’s DOK:** Understand (4); Apply (4); Analyze (4); Evaluate (4); Create (4)

**Rubric:** Please see a sample grading sheet below Engaging Scenario.
Engaging Scenario

(An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.)

Students will be asked to submit a research proposal for approval at the end of this unit. It is a formal document.

Rubric for Engaging Scenario:
Potential Grading Sheet for Final Draft of Research Proposal

Question:
1. Is the research question explicitly stated in question format?
2. Is the question researchable with a clear manageable scope?

Context/Situation/Purpose
1. Is the context clearly stated? Do you either situate the topic within something bigger than itself and/or give us the “so what” as it relates to your own personal curiosity?
2. Is the purpose or goal of the research clearly identified?

Literature Review
1. Is it 1 page (SS) or 2 pp. (DS)?
2. Does the literature review effectively synthesize at least six sources of your research?
3. Are there quotation snippets used in the synthesis?
4. Does the literature review clearly discuss the commonalities between sources?
5. Is the gap explicitly discussed?
6. Can readers see the link between what sources “said” and the need for the gap?

The Method:
1. Has at least one method been solidified? OR Have 2-3 methods been identified and contemplated?
2. What is that method? How have you defined it? What are the specific steps for implementing this method as it relates to your question? (x2)
3. What are the potential challenges of this implementation plan they relate to YOUR question and our timeline. (x2)

Other/Misc:
1. Have desired equipment or resources been identified?
2. Have potential challenges/bumps been discussed?
3. Have expected approvals been addressed?
4. Is this piece written in prose format? (x2)

2=yes; 1=kind of; 0= no

20 total questions for a total of _______/40 (Essay portion of the grade.)
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<td>1 week</td>
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<td>Rationale for Choosing a Method</td>
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<td>The purpose of this topic is for students to choose a research method that best aligns with the goal of their research and, thus, its contribution to the academic conversation. Students must articulate the rationale for choosing their method or combination of methods.</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td>Research Proposal</td>
<td>Research Proposal</td>
<td>The purpose of this topic is for students to articulate the foundations for their research while synthesizing the work done during the semester.</td>
<td>1-2 weeks</td>
</tr>
</tbody>
</table>
Unit 4: Conducting Research

Subject: AP Research
Grade: 12
Name of Unit: Conducting Research
Length of Unit: 5-7 Weeks

Overview of Unit: The purpose of this unit is for students to put into motion all that they have been working toward, so they will be creating surveys, experiments, contacting consultants, and fine-tuning the research method/s they have chosen. The time frame becomes more fluid at this point because students will be at different points in the process. Individual conferencing is crucial to monitor progress and catch potential problems.

Big ideas for the Unit:
- Question and Explore
- Understand and Analyze

Essential Questions:
- Is this research reflecting what I want to know, learn, or understand?
- How does my project goal shape my day-to-day investigation?
- What strategies will help me progress through this process while remaining true to my goal?
- What are potential problems or drawbacks in this process? How will I combat those?

Supporting Standards:
- Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology (ISTE 1 - Creativity and Innovation).
  - Apply existing knowledge to generate new ideas, products, or processes.
  - Create original works as a means of personal or group expression
  - Use models and simulations to explore complex systems and issues.
  - Identify trends and forecast possibilities.
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.
Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).

- Identify and define authentic problems and significant questions for investigation.
- Plan and manage activities to develop a solution or complete a project.
- Collect and analyze data to identify solutions and/or make informed decisions.
- Use multiple processes and diverse perspectives to explore alternative solutions.

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior (ISTE 5 - Digital Citizenship).

- Advocate and practice safe, legal, and responsible use of information and technology.
- Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- Demonstrate personal responsibility for lifelong learning.
- Exhibit leadership for digital citizenship.

**Enduring Understandings:**

- **EU 1.1:** Personal interest and intellectual curiosity inspire investigation of topics or issues that may or may not be clearly defined. A well-crafted investigation explores the complexity of an issue or topic. Further inquiry can lead to unexpected conclusions, resolutions, innovations, or solutions.
- **EU 1.3:** The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible.
- **EU 1.4:** There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.

**Unit Vocabulary:**

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<thead>
<tr>
<th>Academic Cross-Curricular Words</th>
<th>Content/Domain Specific</th>
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</thead>
<tbody>
<tr>
<td>Research methods</td>
<td>Consultant</td>
</tr>
<tr>
<td><a href="https://phrp.nihtraining.com/users/login.php">https://phrp.nihtraining.com/users/login.php</a></td>
<td></td>
</tr>
<tr>
<td>Time-Management</td>
<td></td>
</tr>
</tbody>
</table>
Engaging Scenario

Engaging Scenario (An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.)

There are two types of engaging scenarios: 1) Individual conferences. These are informal and 1:1 with teacher or a peer partner (depending on situation). These are crucial in facilitating progress and troubleshooting potential issues. These conferences really are the backbone for this unit. 2) A whole-group share out. 1-2 people per class period share their question, their goal, their research; researchers have a chance to ask the class for feedback/input/clarification. The class gives shares positives but potential trouble points and gives suggestions and/or asks questions.

Rubric for Engaging Scenario: None. Check for understanding comes in observation, discussion, and questioning.
Unit 5: Writing the Research Article

Subject: AP Research
Grade: 12
Name of Unit: Writing the Research Article
Length of Unit: 4-6 Weeks

Overview of Unit: This purpose of this unit is to coach and draft the writing of this paper. It culminates everything students have worked on so far. Again, it is fluid in terms of time as students will be in varying places and will need different coaching. That said, multiple drafts, including a peer response draft is necessary. Teacher scores are due to College Board by April 30, so a student deadline of mid-March is the target.

Big ideas for the Unit:
- Synthesize Ideas
- Team, Transform, and Transmit

Supporting Standards:
- Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology (ISTE 1 - Creativity and Innovation).
  - Apply existing knowledge to generate new ideas, products, or processes.
  - Create original works as a means of personal or group expression
  - Use models and simulations to explore complex systems and issues.
  - Identify trends and forecast possibilities.
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.
- Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).
  - Identify and define authentic problems and significant questions for investigation.
  - Plan and manage activities to develop a solution or complete a project.
  - Collect and analyze data to identify solutions and/or make informed decisions.
  - Use multiple processes and diverse perspectives to explore alternative solutions.
- Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior (ISTE 5 - Digital Citizenship).
○ Advocate and practice safe, legal, and responsible use of information and technology.
○ Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
○ Demonstrate personal responsibility for lifelong learning.
○ Exhibit leadership for digital citizenship.

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

**Enduring Understandings:**
- EU 4.1: Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.
- EU 4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.
- EU 4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.
- EU 4.4: Forming one’s own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.
- EU 4.5: Arguments, choices, and solutions present intended and unintended opportunities, consequences, and implications.
- EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on audience, purpose, and context.
**Unit Vocabulary:**

<table>
<thead>
<tr>
<th>Academic Cross-Curricular Words</th>
<th>Content/Domain Specific</th>
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</thead>
<tbody>
<tr>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>Method, Process, or Approach</td>
<td></td>
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<tr>
<td>Results, Product, or Findings</td>
<td></td>
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<tr>
<td>Discussion, Analysis, and/or Evaluation</td>
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<tr>
<td>Conclusion and Future Directions</td>
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<tr>
<td>Bibliography</td>
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<tr>
<td>Peer Response</td>
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<tr>
<td>Drafting</td>
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<tr>
<td>Citation</td>
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<tr>
<td>Argument</td>
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</table>
Engaging Scenario (An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.)

Students work individually to identify, investigate, analyze, and evaluate a real-world or academic research question; they then use time and resources to “conduct an in-depth investigation of personal interest” (AP Research Course and Exam Description, p. 9) that results in a 4,000-5,000 word academic paper and includes the following:

Rubric for Engaging Scenario: Please see College Board’s Rubric for AP Research Academic Paper.
Unit 6: Creating the Presentation

Subject: AP Research
Grade: 12
Name of Unit: Creating the Presentation
Length of Unit: 4-5 weeks

Overview of Unit: The purpose of this unit is to turn the academic paper into a multi-media presentation. Again, timing is fluid as students will be in different places. The primary task here is that students are coached in the skills necessary for creating engaging and delivering engaging presentations.

Big ideas for the Unit:
- Synthesize Ideas
- Team, Transform, Transmit

Supporting Standards:
- Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology (ISTE 1 - Creativity and Innovation).
  - Apply existing knowledge to generate new ideas, products, or processes.
  - Create original works as a means of personal or group expression
  - Use models and simulations to explore complex systems and issues.
  - Identify trends and forecast possibilities.
- Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others (ISTE 2 - Communication and Collaboration).
  - Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
  - Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
  - Develop cultural understanding and global awareness by engaging with learners of other cultures.
  - Contribute to project teams to produce original works or solve problems.
- Students apply digital tools to gather, evaluate, and use information (ISTE 3 - Research and Information Fluency).
  - Plan strategies to guide inquiry.
  - Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
  - Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
  - Process data and report results.

Draft: July 2016
Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources (ISTE 4 - Critical Thinking, Problem Solving, and Decision Making).

- Identify and define authentic problems and significant questions for investigation.
- Plan and manage activities to develop a solution or complete a project.
- Collect and analyze data to identify solutions and/or make informed decisions.
- Use multiple processes and diverse perspectives to explore alternative solutions.

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior (ISTE 5 - Digital Citizenship).

- Advocate and practice safe, legal, and responsible use of information and technology.
- Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- Demonstrate personal responsibility for lifelong learning.
- Exhibit leadership for digital citizenship.

**Essential Questions:**

- 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?
- How can I benefit from reflecting on my own work?
- What is the most appropriate way to acknowledge and attribute the work of others that was used to support my argument?

**Enduring Understandings:**

- EU 5.1: How a perspective or argument is presented affects how people interpret or react to it. The same perspective or argument may be developed or presented differently depending on audience, purpose, and context.
- EU 5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation 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.

**Unit Vocabulary:**

<table>
<thead>
<tr>
<th>Academic Cross-Curricular Words</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Multi-Media</td>
<td>Oral Defense</td>
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<tr>
<td>Argument</td>
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<tr>
<td>Performance Techniques</td>
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<td>Reflection</td>
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</table>
Engaging Scenario

An Engaging Scenario is a culminating activity that includes the following components: situation, challenge, specific roles, audience, product or performance.

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

Rubric for Engaging Scenario: Please see AP Capstone Rubric for Presentation and Oral Defense.
Unit of Study Terminology

**Appendices:** All Appendices and supporting material can be found in this course’s shell course in the District’s Learning Management System.

**Big Ideas/Enduring Understandings:** Foundational understandings teachers want students to be able to discover and state in their own words by the end of the unit of study. These are answers to the essential questions.

**Engaging Experience:** Each topic is broken into a list of engaging experiences for students. These experiences are aligned to priority and supporting standards, thus stating what students should be able to do. An example of an engaging experience is provided in the description, but a teacher has the autonomy to substitute one of their own that aligns to the level of rigor stated in the standards.

**Engaging Scenario:** This is a culminating activity in which students are given a role, situation, challenge, audience, and a product or performance is specified. Each unit contains an example of an engaging scenario, but a teacher has the ability to substitute with the same intent in mind.

**Essential Questions:** Engaging, open-ended questions that teachers can use to engage students in the learning.

**Supporting Standards:** Additional standards that support the learning within the unit.

**Topic:** These are the main teaching points for the unit. Units can have anywhere from one topic to many, depending on the depth of the unit.

**Unit of Study:** Series of learning experiences/related assessments based on designated priority standards and related supporting standards.

**Unit Vocabulary:** Words students will encounter within the unit that are essential to understanding. Academic Cross-Curricular words (also called Tier 2 words) are those that can be found in multiple content areas, not just this one. Content/Domain Specific vocabulary words are those found specifically within the content.

**Symbols:**
- This symbol depicts an experience that can be used to assess a student’s 21st Century Skills using the rubric provided by the district.
- This symbol depicts an experience that integrates professional skills, the development of professional communication, and/or the use of professional mentorships in authentic classroom learning activities.