# AP Research Syllabus

## Course Overview

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

## Course Textbooks and/or Resources

- AP Research Course and Exam Description
- Graff, Gerald, and Cathy Birkenstein. *They Say, I Say: The Moves that Matter in Academic Writing.* 6th ed. New York: W.W. Norton & Co., 2024.
- Activities and exercises from the AP Research Handbook and AP Classroom

## Course Goals

• To engage and challenge the student through the in-depth consideration of a student-selected research question
• To empower students to join the conversation of scholars in a selected field of study
• To cultivate higher-level critical and creative thinking skills by making connections between and among a variety of types of sources
• To find and investigate a gap in information and to contribute to the research in the field
• To hone the craft of academic writing by selecting, synthesizing, and embedding researched information with academic integrity
• To develop college-level skills for a successful college and career future

## Course Framework

The AP Research course is organized around five big ideas that form the QUEST framework; students will use this framework as they explore issues and topics throughout the course. In-class activities and homework assignments will focus on developing skills and meeting the end of course objectives that are tied to each of the following elements of the QUEST framework below:

Q- Question and Explore

- How might others see the problem or issue differently?
- What questions have yet to be asked?
- What do I want to know, learn, or understand?
- How does my research question shape how I try to answer it?
- How does my project goal shape the research or inquiry I engage in to achieve it?

U- Understand and Analyze

- What strategies will help me comprehend a text?
- What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- What biases does 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?

E- Evaluate Multiple Perspectives

- What patterns or trends can be identified among the arguments about this issue?
- What are the implications and/or consequences of accepting or rejecting a particular argument?
- How can I connect the multiple arguments? What are other issues, questions, or topics they relate to? · How can I explain contradictions within or between arguments?
- From whose perspective is this information being presented, and how does that affect my evaluation?

S- Synthesize Ideas

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

T- Team, Transform, and Transmit

- How can I best appeal to and engage my audience?
- What is the best medium or genre through which to reach my audience?
- How may I adapt my written and oral presentations for different audiences and situations?
- How might 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?

**Policies and Procedures**

• The classroom policies and procedures align with school expectations and policies, including those in the student handbook regarding attendance, behavior, and grading

• The grading scale for this course is consistent with the district-mandated grading scale. Students will receive formative and summative feedback when appropriate, but grades will be solely summative.

• Academically, this course aligns with the academic integrity policy held by the school district, as well as the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information and Generative AI included in the syllabus.

**Course Requirements**

- Students will develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question & Explore; Understand & Analyze; Evaluate Multiple Perspectives; Synthesize Ideas; Team, Transform, & Transmit (QUEST)
- Students will develop an understanding of ethical research practices and the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information.

- In the classroom and independently (while possibly consulting any expert advisers), students will learn and employ research and inquiry methods to develop, manage, and conduct and 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:
    - Introduction
    - Method, Process, or Approach
    - Results, Product, or Findings
    - Discussion, Analysis, and/or Evaluation
    - Conclusion and Future Directions
    - Bibliography
- Using a process and reflection portfolio (PREP), students will document their inquiry processes, communication with their teachers and any expert advisers as needed, and reflections on their thought processes. Students have regular work-in-progress interviews with their teachers to review their progress and to receive feedback on their scholarly work. ***(CR4b)***
- Students will develop and deliver a 15-20 minute presentation (using an appropriate medium) and an oral defense to a panel on their research processes, method, and findings.

***Advanced Placement Performance Task***

While the topic of each research study will vary, the course requires students to plan and conduct a study or investigation. The course provides opportunities (activities/assignments) for students to understand principles of discipline-specific research methods (e.g., qualitative, quantitative, mixed) to develop, manage, and conduct an in-depth study or investigation in an area of student's own interest in order to fill a gap in the current field of knowledge. The final output of these efforts includes:

- *A 4,000 – 5,000 word Academic Paper [75 percent of the AP Test grade] that includes several components as follows:*
    - Introduction: This section introduces and contextualizes the research question and initial student assumptions and/or hypotheses. Additionally it reviews the previous work in the field to synthesize information and a range of perspectives related to the research question (e.g., literature review) to allow for the student to identify the gap in the current field of knowledge to be addressed.
    - Method, Process, or Approach: This section explains and provides justification for the chosen method, process, or approach.
    - Results, Products, or Findings: This section presents the findings, evidence, results, or product from the student's work.
    - Discussion, Analysis, and/or Evaluation: This section interprets the significance of the findings, results, or product and explores connections to the original research question while discussing the implications and limitations of the research or creative work.
    - Conclusion and Future Directions: This section reflects on the process and how this project could impact the field while discussing the possible next steps and/or future directions.
    - Bibliography: This section provides a complete list of sources cited and consulted in the appropriate disciplinary style.

- *A 15-20 minute Presentation and Oral Defense [25 percent of the AP Test grade]:*
    - This presentation may be accomplished in a variety of formats, so long as it reflects the depth of their research. Prior to this performance, the students whose academic paper was accompanied by an additional piece of scholarly work (e.g., performance, exhibit, etc.) will arrange for the teacher and panelists to view the scholarly work. The defense will include up to four questions from a panel consisting of the AP Research teacher and two additional members (chosen at the AP Research teacher's discretion).

***Process and Reflection Portfolio (PREP) (CR4b)***

AP Research is not merely about collecting evidence or facts and then piecing them together. Instead, the research process is about true inquiry—asking questions and coming to solutions and conclusions through serious thinking, discussion, and reflection. The student researcher will seek relevant information in articles, books, and other sources and develop an informed perspective built upon, but not merely a derivative of, the ideas in the examined material. As a result, the research process is recursive, meaning that students will regularly revisit ideas, seek new information when necessary, and reconsider and refine their research question, topic, and/or approach.

While the academic paper, presentation, and oral defense are the assessed manifestations of this process, other products, exhibits, and/or performances may be used by students to develop their ideas further. Specifically to keep track of the inquiry process, students are required to keep a digital Process and Reflection Portfolio (PREP)—an assessment tool that will be shared in real time with their AP Research Teacher.

The PREP will allow students to document their experiences in the course and to manage specific checkpoints along the way. In any given week, students should expect to make five or more entries in their PREP to document their engagement with the QUEST ideas, with special attention paid to the following items:

- Choice of the research question and interest in the subject matter
- Research process, including resources (documents, people multimedia), analysis of evidence, directions in which the inquiry or project seems to lead, changes to initial assumptions, etc.
- Ways in which students have worked both on their own and as a part of a larger community
- Challenges encountered and solutions attempted

The final version of the PREP will be due the Friday following the College Board's grading submission date. It will include the following:

1. Title page and table of contents
2. Copy of the completed and approved Inquiry Proposal Form
3. PREP entries made throughout
4. Specific pieces of work the student feels best showcases his/her work, including
    4.1. Annotated bibliography of sources important to the student's work
    4.2. Photographs, charts, spreadsheets, and/or links to videos or other relevant visual research/project artifacts
    4.3. Draft versions of selected portions of the paper
    4.4. Notes in preparation for the presentation and oral defense
    4.5. Copy of the academic paper
5. Documentation of permission(s) received from primary sources, if required.

6. Documentation or log of the student's interactions with expert advisor(s) and the role the expert advisor(s) played in the student's learning and inquiry process (e.g., what areas of expertise did they have, did they give the help the student needed, areas the expert advisor was able to help, etc.) if applicable.
7. Questions asked to and feedback received from peer and adult reviewers both in the initial stages and at key points
8. Reflections on whether or not the feedback was accepted or rejected and why
9. Attestation signed by the student which states, *"I hereby affirm that the work contained in this Process and Reflection Portfolio is my own and that I have read and understand the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information."*

## Unit 1: Transitioning from AP Seminar

**Curricular Requirements:**

Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**

***1a***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 1: Question and Explore
***1b***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 2: Understand and Analyze
***1e***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***2b***: Students develop an understanding of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information
**4a:** Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their thought processes.
***4b*** Students have regular work-in-progress interviews with their teachers to review their progress and to receive feedback on their scholarly work as evidenced by the PREP.

**Key Terms** · Purpose, Accuracy, Authority, Relevance, Currency
**Activities**

- AP Seminar vs. AP Research - closing the gap between activities. Students will watch College Board video "Transition from AP Seminar to AP Research." They will discuss in groups, create a poster, and gallery walk.
- Plagiarism Activity: Students will complete the "Plagiarism" activity from the College Board's *Student Handbook*. Scenarios: In groups, students are presented with scenarios of possible student examples of plagiarism. Students will then discuss if the instances were actually plagiarism, incorrect citation, and discuss the concept of intent in plagiarism.
- Attestation: Students read, review, and discuss the College Board's Policy on Plagiarism and Falsification or Fabrication of Information and Generative AI. They will also print the attestation that all work they will do is theirs and place these attestations in their PREP binders.
- CRAAP: Students will watch a teacher-chosen video and will then use a worksheet with the components of CRAAP and evaluate and discuss both the speaker and his arguments.
- Line of Reasoning/Argument: Using the same video, students find and discuss the speaker's line of reasoning, including the speaker's "research question." They research alternate evidence and present their findings to the class.
- What's Missing Activity: To understand the concept of a research "gap", students will use a community cookbook and find a recipe with ambiguous details, discussing the "gap" of information needed to complete the recipe. The teacher will then walk them through a discussion of the research gap and how researchers aim to add to the academic conversation. Students will then apply this skill to the idea of developing a research question.
- SMARTER Searches: The teacher and our school's library media specialist will review with students efficient search techniques, terms, and sources.

**Assessments**
Practice Presentation: Students will create a 3-5 minute presentation for small groups of a peer reviewed article related to their research topic. They will give background information about the author(s), discuss the research question, hypothesis, organization, method, major findings, limitations, and implication. They will create an annotated bibliography entry for that source.

## Unit 2: Developing a Research Question

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**
***1a***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 1: Question and Explore
***1b***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 2: Understand and Analyze
***1c***: Students develop/apply discrete skills in the learning objectives within the Big Idea 3: Evaluate Multiple Perspectives
***1e***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***1g***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit

**Key Terms** · Scope, Focus, Value, Feasibility

**Activities**
- Fixing Research Questions: Students are divided into groups. After a class discussion on scope, focus, value, and feasibility, each group is given five potential research questions. Each group then "fixes" the questions to reflect their new knowledge of what constitutes an adequate research question. Students then present their new questions.
- Research Question Snapchats and Workshop: Students create four, 10-12 second videos discussing the scope, focus, value, and feasibility of their intended research questions. Each student is then provided feedback on each component by their peers and must defend the rationale behind their thinking.
- Students will identify and read three sources to develop an annotated bibliography to contextualize their research question. Within the annotated bibliography, students will cite the bibliographic details, briefly summarize the source, and comment on its credibility and usefulness to their inquiry.
- Students will consider a historical example of an unresolved question and examine the various proposed resolutions of that question, identifying the various perspectives used, assumptions made, and proposed approaches to obtaining a resolution. The student will then compare how the sources identified and utilized in each study, as synthesized in that study, led to different conclusions or different emphases on the same conclusion.
- Problem Statements: Students are given rubrics and the teacher models how to determine a research topic's potential by writing a problem statement.
- Students and teacher will meet one-on-one to ensure proper question development
- Students will create a chart of different citation styles and what fields use each citation style, then they will choose the citation style that is appropriate for them

**Assessments**
- Quiz: Fixing Research Questions: Students will fix "bad" research questions and defend their rationales.
- Students will make a final draft of their video upon revising their research questions and receiving peer feedback.

## Unit 3: Methods, Design, & Alignment

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**
***1a***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 1: Question and Explore
***1f***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***1g***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***2a***: Students develop an understanding of ethical research practices

**Key Terms** · Approach, Method, Research Paradigm, Alignment

**Activities** ·
- Research Method Jigsaw: Each pair of student groups become "experts" on one of nine popular research methods or approaches and present knowledge learned to their other classmates. They provide examples of the method used in peer-reviewed research and how researchers that use that method collect data
- Alignment Soulmate Search: Students are divided into two groups. One group is given a method (one per person) and the other group is given research questions and proposals. Students must find their method "soulmate" and justify their pairing.
- Fixing Research Question/Method Alignment: Using the research questions that were "fixed" during Unit 2, students will find the most aligned research method or approach for the research question and present their ideas. They will field questions from other students challenging their approach and rationalize their thinking.
- Students will watch a short video on the case of Genie and the Stanford Prison Experiment and discuss ethical practices when using human subjects. An overview of our district's rules and protocols will be discussed.
- Students will be instructed in the ethical principles and practices of research that involves human subjects. Students will review a series of inquiry proposal forms and evaluate them for the use of ethical research practices. Students will provide suggestions for revision based on the guidelines in ethical research practices.
- Students will analyze Inquiry Proposal Forms and determine the feasibility and use of ethical research practices and make recommendations.
- Students and teacher will meet to ensure proper PREP development

**Assessments** ·
- Quiz: Students will be given research questions and provide a response and rationale for a method or approach.
- Students will create a three to five-minute presentation explaining their chosen research method and provide a detailed rationale for each of their choices.

# Unit 4: Inquiry Proposal Form

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**
***1c***: Students develop/apply discrete skills in the learning objectives within the Big Idea 3: Evaluate Multiple Perspectives
***1e***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***1g***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***2a***: Students develop an understanding of ethical research practices
**4a:** Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their thought processes.

**Key Terms** · Inquiry Proposal Form

**Activities** ·

- Students will create posters of their Inquiry Proposal Forms and present their ideas to classmates and receive feedback on their presentations and ease of understanding their ideas
- Gone in 60 Seconds: Students will choose a peer with a very different topic/research method from their own. They will present their inquiry proposal in sixty seconds. Partners will give each other feedback on their research question and alignment.
- Students will review background information on ethical research practices and our school's research policy. Students will peer review each other's inquiry proposal forms and provide feedback on how to transform their methods/questions as needed.
- Students will create their Inquiry Proposal Form and once approved, print the proposal form and place it in their PREP binders
- Upon having their IPF approved, students will examine various proposed resolutions to their research question, identifying the various perspectives used, assumptions made, and proposed approaches to obtaining a resolution. The student will then compare how the sources identified and utilized in each study, as synthesized in that study, led to different conclusions or different emphases on the same conclusion.

**Assessments**

- Students will create presentations of their Inquiry Proposal Forms and take questions from peer panels about the ethics of their research as well as the feasibility of their proposals.
- IPF and Prep will be scored as a midterm at this point of the semester
- Inquiry Proposal Forms must have final approval by November 30th

## Unit 5: Literature Review & Introduction

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**
***1b***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 2: Understand and Analyze
***1c***: Students develop/apply discrete skills in the learning objectives within the Big Idea 3: Evaluate Multiple Perspectives
***1g***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
**4a:** Students document their inquiry processes, communicate with their teachers and any expert advisors, and reflect on their thought processes.

**Key Terms** · Perspective, Literature Review

**Activities**
- Students will analyze the different perspectives their research has covered thus far, using a matrix. They will then evaluate, with the help of peers, which perspectives they may be missing.
- Literature Review Outline: Students will choose one of the sources they have read and close read and annotate the literature review section. They will create an outline of the section and critique its organization in their PREP journal.
- Matrix & Outline for the First Draft: Students will organize their literature review sources onto a matrix, sorting the sources by needed perspectives relevant to justifying their research method. They identify gaps in their lit review sources and create an initial outline for the literature review.
- The Research Train: Students will be given a script about a topic. Each student will represent a different researcher with a different perspective. Each student will create a mini "annotated bibliography" of that perspective. Using these reports, student groups must work together to decide how to best synthesize the researchers into different train cars, representing different themes or sections in a literature review. Students will rationalize their choices to each other.

**Assessments**
Practice Presentation: Students will create an eight to ten-minute presentation of their literature review, explain the choices they made in selecting their themes and presentation of other researchers' findings and arguments, and how they were logically synthesized

## Unit 6: Results & Discussion

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components**
**1d**: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 4: Synthesize Ideas
***1g***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***1f***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit

**Key Terms** · Results, Discussion

**Activities**

- Students will review the Results, Discussion and Conclusion sections of three anchor research papers that use their same method of inquiry and identify common elements in data/information display, analysis, and synthesis in these sections
- Students will create outlines of their lines of reasoning and directly show the correlation of their arguments and the data backing up their assertions
- In groups, students will create tables and charts for data given by the teacher. They will discuss and critique their choices including missing essential elements, color scheme, font, and style. They will determine the best methods to visually convey the data/findings in a paper and in an oral presentation.
- Limitations and Future Directions: In round table discussions, students will pitch the importance of their research to different stakeholders and receive feedback on the viability of their assertions

**Assessments**

- Based upon results from their round table discussions, students will create a final pitch and video this presentation for a summative score.

## Unit 7: Final Paper & Abstract

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components**
***1e***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***1f***: Students develop and apply discrete skills identified in the learning objectives within the Big Idea 5: Team, Transform, and Transmit
***2b***: Students develop an understanding of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information

**Key Terms** · Abstract

**Activities**

- Students will revisit the College Board's policy and plagiarism, falsification of information, and generative AI. As they conduct peer reviews, they will evaluate citations for their peers.
- Students will use both formal and informal peer review opportunities to critique each other's written and orally presented work.
- Is It All There?: Students will write the abstract of their paper and share it with a partner. Using a different color highlighter for different sections, students will show if each component of the rubric is met.
- Students compose, edit, and submit their papers using Turnitin to check for proper attribution of sources and AI generative use.
- Students will write, edit, and revise their research papers from January-March

**Assessments**

- Students will provide feedback to a selected partner via a peer edit worksheet

## Unit 7: Presentation & Oral Defense

**Curricular Requirements:**
Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas: Question and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit

**Scoring Components:**
***1f***: Students develop and apply discrete skills identified in the learning objectives within the Big IdeaTransform, and Transmit

**Key Terms** · None

**Activities**
- Students put the finishing touches on their final presentations, scripts and review all the oral defense questions
- Students practice their presentations and provide feedback to each other on the aesthetics of their presentations and their delivery techniques
- Students will write scripts, edit, and revise their presentation in March

**Assessments**
- Students will provide feedback to a selected partner

**Ethical Research**

The U.S. Department of Health and Human Resources outlines in the Belmont Report specific regulations for the protection of human subjects involved in the research process. All students' research proposals will be vetted for potential harm to human subjects to determine the need for an approval. Students will receive instruction on ethical research practices during the course.

**AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information**

Participating teachers shall inform students of the consequences of plagiarism and instruct students to ethically use and acknowledge the ideas and work of others throughout their course work. The student's individual voice should be clearly evident, and the ideas of others must be acknowledged, attributed, and/or cited.

A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

## AP Capstone Policy on Use of Generative Artificial Intelligence (AI)

### DEFINITION OF GENERATIVE AI IN AP CAPSTONE COURSES

Generative AI tools use predictive technology to produce new text, charts, images, audio, video, etc. This includes not only ChatGPT and similar Large Language Models (LLMs), but also many writing assistants or plug-ins that are built on this or similar AI technologies.

### POLICY ON ACCEPTABLE GENERATIVE AI USE IN AP CAPSTONE COURSES

Generative AI tools must be used ethically, responsibly, and intentionally to support student learning, not to bypass it. Accordingly, all performance tasks submitted in AP Seminar and AP Research must be the student's own work. While students are permitted to use generative AI tools consistent with this policy, their use is optional and not mandatory.

Students can use generative AI tools as optional aids for exploration of potential topics of inquiry, initial searches for sources of information, confirming their understanding of a complex text, or checking their writing — but not rewriting — for grammar and tone. However, students must read primary and secondary sources directly, perform their own analysis and synthesis of evidence, and make their own choices on how to communicate effectively both in their writing and presentations. Students may not use generative AI tools to write or create their assignments for them. It remains the student's responsibility to engage deeply with credible, valid sources and integrate diverse perspectives when working on the performance tasks. Students must complete interim "checkpoints" with their teacher to demonstrate genuine engagement with the tasks.

## Equity and Access Policy (as per the College Board)

"The College Board strongly encourages educators to make equitable access a guiding principle for their AP programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP students from ethnic, racial, and socioeconomic groups that have been traditionally underserved. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging coursework before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved."

Course Proposal for Board Approval

Department: **English**

The department intends to **add a class** for the upcoming school year.

Course title: **AP Research Capstone**

The course will be a(n) **Elective** class that lasts a **Year.**

Grade levels eligible for enrollment: **Grade 11, Grade 12**

Prerequisites if any: **Completion of AP Seminar**

Describe how the course aligns with the department's vision and mission: **The AP Research course, the second part of the AP Capstone experience by following successful completion of AP Seminar in 10th grade, is a year-long elective where 11th or 12th graders deeply investigate an academic topic, problem, or issue of their choice, designing and conducting a year-long investigation to answer a research question. Students develop advanced research and writing skills, learn ethical practices, synthesize information, and create a 4,000-5,000 word academic paper, a presentation, and an oral defense, with no traditional end-of-course exam. The course reflects the district's vision of preparing students for careers, college, and life. The course prepares students to be critical thinkers, close readers, bias navigators, researchers, presenters, and practitioners of soft skills.**

Identify the content standards: **See attached document - AP Research Curriculum Framework - Standards**

Outline the major concepts included in the course: **See attached document - AP Research - Requirements and Pacing Guide**

Describe the learning activities: **See attached document - AP Research Learning Activities and Skills**

Describe how the course aligns with the current scope and sequence. **The course will be an elective offering for students who wish to conduct individual research on a topic of their choice after completing AP Seminar. It is an AP Capstone class that can earn students AP Capstone distinction and possible college credits.**

The methods for evaluation include: **In addition to the 4,000-5,000 word research project, students will complete a presentation, and formative assessments. See attached document - AP Research - Formative Assessments. Additionally 75% of the submitted project is the research paper, and 25% of the course grade is presentation and oral defense of their research. See attached document - AP Research - Performance Task**

The criteria for intervention and/or enrichment include: **Students will access intervention through intentional Lunch and Learns, classroom work time, and embedded enrichment of the project.**

Additional supplies and equipment with an estimate: **Training for personnel - $1,500 for a team of instructors, plus travel if necessary. Mr. Omo and Mrs. Tolbert already completed the training.**

Required text for review: **Graff, Gerald, and Cathy Birkenstein. They Say, I Say: The Moves that Matter in Academic Writing. 6th ed. New York: W.W. Norton & Co., 2024.**

Additional information: **There are similarities with Composition, yet AP Research would be an advanced elective, not a required course.**

Department Member's Signatures of Support: Date:

# AP Research Curriculum Framework

## Overview of the Curriculum Framework

Based on the Understanding by Design (Wiggins and McTighe) model, this curriculum framework is intended to provide a clear and detailed description of the course requirements necessary for student success. This conceptualization will guide the development and organization of learning outcomes from general to specific, resulting in focused statements about content knowledge and skills needed for success in the course. The curriculum framework contains the following structural components:

- The course is organized around five **big ideas**. Tied to each big idea are several **essential questions**. These are open-ended questions that encourage students to think deeply about a topic, ask additional questions and investigate solutions, and develop the deeper conceptual understanding that the course seeks to foster. Teachers should communicate to students that these big ideas are not meant to represent a linear progression of research processes but instead are a recursive set of ideas and skills that the student researcher will strengthen by the end of the research process.
- Within each big idea are several **enduring understandings**. These are the long-term takeaways related to the big ideas that a student should have after exploring the content and skills. These understandings are expressed as generalizations that specify what students will come to understand about the key concepts in the course. Enduring understandings are numbered to correspond to each big idea. The enduring understandings for the AP Seminar and AP Research courses are the same.
- Linked to each enduring understanding are the corresponding **learning objectives**. The learning objectives articulate what students need to be able to do in order to develop the enduring understandings. The learning objectives will become targets of assessment for the course. Learning objectives are numbered to correspond with the appropriate big ideas and enduring understandings.
  - Learning objectives in italics with a blue shaded background represent those from the AP Seminar course that are not assessed in the AP Research course.
  - Learning objectives with a green shaded background are those that do carry over from the AP Seminar course and should be used to develop instructional strategies and/or will be formally assessed by the summative assessment task components of the AP Research course.
  - Learning objectives without a shaded background are unique to the AP Research course.
- For each of the learning objectives, **essential knowledge** statements describe the facts and basic concepts that a student should know and be able to recall in order to demonstrate mastery of the learning objective. Essential knowledge components are numbered to correspond with the appropriate big ideas, enduring understandings, and learning objectives.
  - Essential knowledge statements in italics with a blue shaded background are those from the AP Seminar course that do not carry over into the AP Research course.
  - Essential knowledge statements with a green shaded background are those that do carry over from the AP Seminar course into the AP Research course.
  - Essential knowledge statements without a shaded background are unique to the AP Research course.

# Big Idea 1: Question and Explore

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

### ESSENTIAL QUESTIONS

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

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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**. | ***LO 1.1A**: Contextualizing and identifying the complexities of a problem or issue.* | ***EK 1.1A1**: Examining the perspectives and ideas of others often leads to questions for further investigation. Inquiry begins with narrowing scope of interest, identifying a problem or issue and its origins within that scope, and situating the problem or issue in a larger **context**.* |
| | ***LO 1.1B**: Posing questions and seeking out answers that reflect multiple, divergent, or contradictory perspectives.* | ***EK 1.1B1**: Effective research questions lead to an examination taking into account the complexity of a problem or issue.*<br><br>***EK 1.1B2**: The inquiry process allows one to draw upon curiosity and imagination to engage with ideas or explore approaches to complex issues.* |

**Note:** The first time words from the glossary are used in the curriculum framework tables, they appear in bold blue text. The glossary begins on page 64.

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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**.<br>*(continued)* | **LO 1.1C:** Identifying a topic of inquiry. | **EK 1.1C1:** Topics of inquiry may come from personal interest, passion for a discipline/field, desire to better understand a topic, or desire to address an issue in the world.<br>**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.<br>**EK 1.1C3:** Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions. |
| | **LO 1.1D:** Articulating the purpose and significance of the scholarly inquiry. | **EK 1.1D1:** Scholars explore, explain, and create.<br>**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.<br>**EK 1.1D3:** Scholarly inquiry should be situated within a broader understanding of the scholarly community and of importance and relevance to that community. |
| | **LO 1.1E:** Developing and revising a focused research question/project goal. | **EK 1.1E1:** A research question/project goal emerges from the scholar's purpose (i.e., to explore, explain, and create).<br>**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). |
| **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. | **LO 1.2A:** Retrieving, questioning, organizing, and using prior knowledge about a topic. | **EK 1.2A1:** Understanding comes not only through collection of information but also from a variety of other factors (e.g., experience, external sources, cultural context, **assumptions**).<br>**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.<br>**EK 1.2A3:** Inquiry confirms or challenges one's existing understandings, assumptions, beliefs, and/or knowledge. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **EU 1.3:** The investigative process is aided by the effective organization, management, and selection of resources and information. Appropriate technologies and tools enable the scholar to become more efficient, productive, and credible. | **LO 1.3A:** Accessing and managing information using effective strategies. | **EK 1.3A1:** Information used to address a problem may come from various secondary sources (e.g., articles, other studies, analyses, reports) and/or primary sources (e.g., original **texts** and works, material culture, or personally collected data such as from experiments, surveys, questionnaires, interviews, observations, personal narratives).<br><br>**EK 1.3A2:** Online databases (e.g., EBSCO, ProQuest, JSTOR, Google Scholar) and libraries catalog and house secondary and some primary sources.<br><br>**EK 1.3A3:** Advanced search tools, Boolean logic, and key words allow scholars to refine, focus, and/or limit their searches based on a variety of factors (e.g., date, peer-review status, type of publication).<br><br>**EK 1.3A4:** Consulting the bibliographies of other sources may provide additional ideas or resources.<br><br>**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**.<br><br>**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.<br><br>**EK 1.3A7:** Software and online tools (e.g., SurveyMonkey, SPSS) can be used to survey participants and analyze large data sets. |
| **EU 1.4:** The relevance and credibility of the source of information is determined by the context of its use. | **LO 1.4A:** Evaluating the relevance and credibility of the source of information and data in relation to the inquiry. | **EK 1.4A1:** The scope and purpose of one's research and the credibility of sources affects the generalizability and the **reliability** of the conclusions.<br><br>**EK 1.4A2:** Credibility of **evidence** depends on use of sources and data that are relevant and reliable (current, authoritative). |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **EU 1.4:** The relevance and credibility of the source of information is determined by the context of its use.<br>*(continued)* | **LO 1.4A:** Evaluating the relevance and credibility of the source of information and data in relation to the inquiry.<br>*(continued)* | **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. |
| **EU 1.5:** There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry. | ***LO 1.5A:*** *Identifying the information needed for the context of the inquiry.* | ***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.* |
| | **LO 1.5B:** Designing, planning, and implementing a scholarly inquiry. | **EK 1.5B1:** Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal. |
| | | **EK 1.5B2:** Methods of inquiry may include research methods (e.g., **qualitative**, **quantitative**, or mixed) or artistic processes (e.g., generating, conceptualizing, testing, and then refining aesthetic approaches). |
| | | **EK 1.5B3:** Throughout the process of determining scope and feasibility, the scholar may, where appropriate, adjust the course of inquiry and/or develop different tools, methods, and processes. |
| | | **EK 1.5B4:** Artistic processes can include elements of research methods as well as the exploration and shaping/reshaping of media and form through activities such as **workshopping**, storyboarding, composing, choreographing, staging, and model-making. |

| Enduring Understandings (Students will understand that . . . ) | Learning Objectives (Students will be skilled at . . . ) | Essential Knowledge (Students will know that . . . ) |
|---|---|---|
| **EU 1.5:** There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.<br>*(continued)* | **LO 1.5B:** Designing, planning, and implementing a scholarly inquiry.<br>*(continued)* | **EK 1.5B5:** Based on the research question or project goal, methods of data or information collection may be qualitative (e.g., open-ended survey questions, interviews, observational notes, interpretation of texts); may be quantitative (e.g., precise measurements, modeling, using structured and validated data collection instruments and procedures); or could include a combination of both qualitative and quantitative (mixed).<br>**EK 1.5B6:** Scholars analyze data or information in a variety of ways appropriate to the inquiry.<br>**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.<br>**EK 1.5B8:** Descriptive or inferential statistics can be used to display and/or analyze data.<br>**EK 1.5B9:** Scholars often organize and categorize (or **code**) data/information to identify patterns or themes.<br>**EK 1.5B10:** Scholars can combine qualitative and quantitative data/information to **triangulate** and corroborate trends, patterns, correlations, and/or themes. |
| | **LO 1.5C:** Demonstrating perseverance through setting goals, managing time, and working independently on a long-term project. | **EK 1.5C1:** Scholars carefully plan methods of inquiry, analysis, and other **feasible** research activities, taking into account deadlines, priorities, risks, setbacks, and the availability of others.<br>**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.<br>**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. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **EU 1.5:** There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.<br><br>*(continued)* | **LO 1.5D:** Employing ethical research practices. | **EK 1.5D1:** Scholars have ethical and moral responsibilities when they conduct research.<br><br>**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).<br><br>**EK 1.5D3:** There are copyright and patent laws and guidelines that govern the use and reproduction of others' instruments, work, personal information, and intellectual property. |

## Big Idea 2: Understand and Analyze

Developing understanding starts with comprehension of the concepts and perspectives under examination. Being able to summarize by identifying and explaining the salient ideas in a text is foundational. When students summarize and explain an author's perspective to others, they are building understanding. Students must comprehend a perspective or argument in order to be able to analyze it. That analysis — including consideration of the author's point of view and purpose, the reasoning and details the author selects, develops, and conveys, and the way the author chooses to situate those details — in turn leads to greater understanding of the topic or concept being explored. Students evaluate the validity of an argument by examining the strength of the line of reasoning and the quality of the evidence the author uses. This level of understanding allows students to recognize the implications and predict the consequences of an argument.

### ESSENTIAL QUESTIONS

- What strategies will help me comprehend a text?
- What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- What biases may the author have that influence his or her perspective?
- Does this argument acknowledge other perspectives?
- How can I assess the quality or strength of others' research, products, or artistic works?

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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. | ***LO 2.1A**: Employing appropriate reading strategies and reading critically for a specific purpose.* | ***EK 2.1A1**: Reading critically means reading closely to identify the main idea, tone, assumptions, context, perspective, line of reasoning, and evidence used.*<br><br>***EK 2.1A2**: Strategies active readers use to preview and prioritize a written text include skimming, scanning, rereading, and questioning.*<br><br>***EK 2.1A3**: Strategies active readers use to make meaning from texts include annotating, note-taking, highlighting, and reading aloud.*<br><br>***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.* |
| | **LO 2.1B:** Summarizing and explaining a text's main idea or aim while avoiding faulty generalizations and oversimplification. | **EK 2.1B1:** The main idea of an argument is often expressed in the thesis statement, **claim**, or conclusion, or implied throughout a work.<br><br>**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. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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. | **LO 2.2A:** Explaining and analyzing the logic and line of reasoning of an argument. | **EK 2.2A1:** Authors use reasons to support their arguments. The **line of reasoning** is composed of one or more claims justified through evidence.<br><br>**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).<br><br>**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.<br><br>**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.<br><br>**EK 2.2A5:** Effective arguments acknowledge other arguments and/or respond to them with **counterarguments** (e.g., **concession**, **refutation**, **rebuttal**). |
| | **LO 2.2B:** Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration. | **EK 2.2B1:** An argument's context (time and purpose) and situation (in relation to other arguments) inform its interpretation.<br><br>**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.<br><br>**EK 2.2B3:** Authors strategically include evidence to support their claims.<br><br>**EK 2.2B4:** Writers appeal to (or possibly manipulate) readers through a variety of strategies and techniques (e.g., language, authority, qualifiers, fallacies, emphasis).<br><br>**EK 2.2B5:** Evidence may be used to identify and explain relationships (comparative, causal, or correlational) and/or patterns and trends. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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.<br>*(continued)* | **LO 2.2B:** Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.<br>*(continued)* | **EK 2.2B6:** Credibility is compromised when authors fail to acknowledge and/or consider the limitations of their conclusions, opposing views or perspectives, and/or their own **biases**. |
| | **LO 2.2C:** Evaluating the validity of an argument. | ***EK 2.2C1:*** *An argument is valid when there is logical alignment between the line of reasoning and the conclusion.* |
| | | **EK 2.2C2:** Validity is most often achieved when the presented evidence is aligned with the conclusions. The strength of an argument depends upon an author acknowledging and/or considering the limitations of his or her conclusions, opposing views or perspectives, and/or his or her own biases.<br>**EK 2.2C3:** Conclusions are contextual and their validity must be affirmed, qualified, or refuted. |
| | **LO 2.2D:** Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives. | **EK 2.2D1:** Scholars analyze and evaluate others' studies and artistic works in terms of internal coherence and **alignment** of the purposes, goals, and methods of inquiry. |
| **EU 2.3:** Arguments have implications and consequences. | **LO 2.3A:** Connecting an argument to broader issues by examining the implications of the author's claim. | **EK 2.3A1:** The implications and consequences of arguments may be intended or unintended. |
| | **LO 2.3B:** Evaluating potential resolutions, conclusions, or solutions to problems or issues raised by an argument. | **EK 2.3B1:** Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps). |

## Big Idea 3: Evaluate Multiple Perspectives

Understanding the complexity of an issue, idea, or problem requires students to compare and contrast different perspectives. These multiple perspectives, which may support, oppose, compete with, or otherwise vary from one another, come together to create the conversation on the issue. Students must consider the biases and assumptions behind those perspectives in order to evaluate their relevance and importance in the conversation. Evaluating multiple perspectives and arguments allows students to better understand the complexities of an issue or topic.

### ESSENTIAL QUESTIONS

- How might others see a problem or issue differently?
- What patterns or trends can be identified among the arguments about this issue?
- What are the implications and/or consequences of accepting or rejecting a particular argument?
- How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?
- How can I explain contradictions within or between arguments?
- From whose perspective is this information being presented, and how does that affect my evaluation?

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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. | **LO 3.1A:** Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue. | **EK 3.1A1:** An individual's perspective is influenced by his or her background (e.g., experiences, culture, education), assumptions, and worldview, as well as by external sources.<br><br>**EK 3.1A2:** Perspectives are not always oppositional; they may be concurring, complementary, or competing.<br><br>**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. |
| **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. | **LO 3.2A:** Evaluating alternate, opposing, or competing perspectives or arguments, by considering their implications and limitations. | **EK 3.2A1:** Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic.<br><br>**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. |

## Big Idea 4: Synthesize Ideas

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

### ESSENTIAL QUESTIONS

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

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **EU 4.1:** Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation. | **LO 4.1A:** Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration. | **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.<br><br>**EK 4.1A2:** Effective arguments are supported and unified by carefully chosen and connected claims, reasons, and evidence.<br><br>**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.<br><br>**EK 4.1A4:** Effective arguments may acknowledge other arguments and/or respond to them with counterarguments (e.g., concession, refutation, rebuttal).<br><br>**EK 4.1A5:** The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.<br><br>**EK 4.1A6:** The logic and reasoning of an argument may be deductive (claim followed by evidence) or inductive (evidence leads to a conclusion). |

| Enduring Understandings (Students will understand that . . . ) | Learning Objectives (Students will be skilled at . . . ) | Essential Knowledge (Students will know that . . . ) |
|---|---|---|
| **EU 4.1:** Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.<br>*(continued)* | **LO 4.1A:** Formulating a well-reasoned argument, taking the complexities of the problem or issue into consideration.<br>*(continued)* | **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).<br>**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).<br>**EK 4.1A9:** The same argument may be organized, arranged, or supported in multiple ways depending on audience and context. |
| | | **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.<br>**EK 4.1A11:** Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.<br>**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. |
| | **LO 4.1B:** Selecting and consistently applying an appropriate disciplinary or **interdisciplinary** approach to form a scholarly argument or aesthetic rationale. | **EK 4.1B1:** Each discipline has its own **conventions** and ways of knowing, questioning, and communicating.<br>**EK 4.1B2:** Scholars apply discipline-specific terminology in the analysis of scholarly works.<br>**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.<br>**EK 4.1B4:** Disciplines may be broadly or narrowly defined. Disciplines can intersect or be combined to provide new understandings or perspectives. |

| Enduring Understandings (Students will understand that . . . ) | Learning Objectives (Students will be skilled at . . . ) | Essential Knowledge (Students will know that . . . ) |
|---|---|---|
| **EU 4.2:** Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale. | **LO 4.2A:** Interpreting, using, and synthesizing qualitative and/or quantitative data/information from various perspectives and sources (e.g., primary, secondary, print, nonprint) to develop and support an argument. | **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).<br><br>**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.<br><br>**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.<br><br>**EK 4.2A4:** The evidence selected and attributed contributes to establishing the credibility of one's own argument. |
| | **LO 4.2B:** Providing insightful and cogent **commentary** that links evidence with claims. | **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). |
| **EU 4.3:** Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others. | **LO 4.3A:** Attributing knowledge and ideas accurately and ethically, using an appropriate citation style. | **EK 4.3A1:** Accurate and ethical attribution enhances one's credibility.<br><br>**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.<br><br>**EK 4.3A3:** Source material should be introduced, integrated, or embedded into the text of an argument.<br><br>**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. |

| Enduring Understandings (Students will understand that . . . ) | Learning Objectives (Students will be skilled at . . . ) | Essential Knowledge (Students will know that . . . ) |
|---|---|---|
| **EU 4.3:** Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.<br>*(continued)* | **LO 4.3A:** Attributing knowledge and ideas accurately and ethically, using an appropriate citation style.<br>*(continued)* | **EK 4.3A5:** Academic disciplines use specific style guides for citing and attributing sources (e.g., APA, MLA, Chicago, AMA). |
| | | **EK 4.3A6:** Appropriation in works of art has potential legal and ethical implications that scholars need to consider (e.g., scholars must credit works that are used in visual/audio sampling, parody, choreography). |
| **EU 4.4:** Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence. | **LO 4.4A:** Extending an idea, question, process, or product to innovate or create new understandings. | **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. |
| **EU 4.5:** Arguments, choices, and solutions present intended and unintended opportunities and consequences. | **LO 4.5A:** Offering resolutions, conclusions, and/or solutions based on evidence considering limitations and implications. | **EK 4.5A1:** When making choices and proposing solutions, the advantages and disadvantages of the options should be weighed against the goal within its context. |

## Big Idea 5: Team, Transform, and Transmit

Collaboration, communication, and reflection are skills that provide opportunities for students to develop their learning. When collaborating, students draw upon their own strengths and the strengths of a team of peers, expert advisers, and teachers to achieve their best possible work. Students should engage in peer review and personal revision to refine and tailor their arguments.

An argument is effectively communicated when its purpose is clear, it is tailored to a specific audience and context, and it is conveyed through a medium appropriate and appealing to the intended audience. Adhering to standard language conventions and engaging delivery techniques establishes a writer's or speaker's credibility with his or her audience. Sometimes arguments or perspectives are associated with and accompanied by an innovation or artistic work. These works should make clear the artistic choices for the aesthetic rationale or focus on one perspective over another.

Whether working alone or in a group, students reflect on their work and learning processes, which can lead to personal growth as well as even more effective inquiry, learning, and collaboration.

### ESSENTIAL QUESTIONS

- How can I best appeal to and engage my audience?
- What is the best medium or genre through which to reach my audience?
- How might I adapt my written and oral presentations for different audiences and situations?
- How might my communication choices affect my credibility with my audience?
- Which revision strategies are most appropriate to developing and refining my project at different stages?
- How do I provide feedback that is valuable to others? How do I act upon feedback I have received?
- How can I benefit from reflecting on my own work?

**Note:** LO 5.1A and EK 5.1A1 are different for AP Seminar [S] and AP Research [R].

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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. | ***LO 5.1A[S]:*** *Planning, producing, and presenting a cohesive argument, considering audience, context, and purpose.* | ***EK 5.1A1[S]:*** *An argument may include the following elements:*<br>› *Introduction: engages the audience by providing background and/or context*<br>› *Thesis: conveys the main idea of an argument*<br>› *Reasons, evidence, and commentary: provide support for the argument*<br>› *Counterargument, concession, refutation, and rebuttal: acknowledge and/or respond to opposing arguments*<br>› *Conclusion: synthesizes reasoning, considers possible implications for the future, and ties back to the introduction*<br>› *Bibliography: identifies works cited* |

| Enduring Understandings (Students will understand that . . . ) | Learning Objectives (Students will be skilled at . . . ) | Essential Knowledge (Students will know that . . . ) |
|---|---|---|
| **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.<br><br>*(continued)* | **LO 5.1A[R]:** Planning and producing a cohesive academic paper, considering audience, context, and purpose. | **EK 5.1A1[R]:** Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:<br>› 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<br>› Method, Process, or Approach: explains and provides justification for the chosen method, process, or approach<br>› Results, Product, or Findings: presents the results, product, evidence, or findings<br>› Discussion, Analysis, and/or Evaluation: interprets the significance of the results, product, or findings; explores connections to original research question/project goal; discusses the implications and limitations of the research or creative work<br>› Conclusion and Future Directions: reflects on the process and how this project could impact the field; discusses possible next steps<br>› Bibliography: provides a complete list of sources cited and consulted in the appropriate disciplinary style |
| | | **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. |
| | **LO 5.1B:** Adhering to established conventions of grammar, usage, style, and mechanics. | **EK 5.1B1:** A writer expresses tone or attitude about a topic through word choice, sentence structure, and imagery.<br><br>**EK 5.1B2:** Effective sentences create variety, emphasis, and interest through structure, agreement of elements, placement of modifiers, and consistency of tense. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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.<br>*(continued)* | **LO 5.1B:** Adhering to established conventions of grammar, usage, style, and mechanics.<br>*(continued)* | **EK 5.1B3:** Precision in word choice reduces confusion, wordiness, and redundancy.<br>**EK 5.1B4:** Spelling and grammar errors detract from credibility. |
| | **LO 5.1C:** Communicating information through appropriate media using effective techniques of design. | **EK 5.1C1:** Effective organizational and design elements (e.g., headings, layout, illustrations, pull quotes, captions, lists) may aid in audience engagement and understanding by calling attention to important information and/or creating emotional responses in the audience. Ineffective use or overuse of these elements disrupts audience engagement and understanding.<br>**EK 5.1C2:** Data and other information can be presented graphically (e.g., infographics, graphs, tables, models) to aid audience understanding and interpretation.<br>**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. |
| | **LO 5.1D:** Adapting an argument for context, purpose, and/or audience. | **EK 5.1D1:** Arguments can be adapted by strategically selecting and emphasizing information considering audience, situation, medium, and purpose.<br>**EK 5.1D2:** Scholars should articulate their choices and content in a language that is not discipline-specific to communicate effectively to nonexperts or people outside the discipline. |
| | **LO 5.1E:** Engaging an audience by employing effective techniques of delivery or performance. | **EK 5.1E1:** Speakers vary elements of delivery (e.g., volume, tempo, movement, eye contact, vocal variety, energy) to emphasize information, convey tone, and engage their audience. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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.<br>*(continued)* | **LO 5.1E:** Engaging an audience by employing effective techniques of delivery or performance.<br>*(continued)* | **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.<br>**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. |
| | **LO 5.1F:** Defending inquiry choices and final product with clarity, consistency, and conviction. | **EK 5.1F1:** Scholars effectively articulate the rationale for inquiry choices in relation to the completed work.<br>**EK 5.1F2:** Scholars engage thoughtfully with their audiences' critiques and questions. |
| ***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.* | ***LO 5.2A:*** *Providing individual contributions to overall collaborative effort to accomplish a task or a goal.* | ***EK 5.2A1:*** *Knowing and communicating one's strengths and challenges to a group allows one's contributions to be more effective.* |
| | ***LO 5.2B:*** *Fostering constructive team climate, resolving conflicts, and facilitating the contributions of all team members to address complex, open-ended problems.* | ***EK 5.2B1:*** *Teams are built around tasks. Low-risk teambuilding activities and simulations enhance a team's performance.*<br>***EK 5.2B2:*** *Teams function at their best when they understand the diversity of their social–cultural perspectives, talents, and skills.*<br>***EK 5.2B3:*** *Teams function at their best when they practice effective interpersonal communication, consensus building, conflict resolution, and negotiation.*<br>***EK 5.2B4:*** *Effective teams consider the use of online collaborative tools.* |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **EU 5.3:** Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications. | **LO 5.3A:** Reflecting on and revising their own writing, thinking, and creative processes. | **EK 5.3A1:** Reflection is an ongoing and recursive process in inquiry, often leading to changes in understanding. Strategies for reflection may include journal writing, self-questioning, drawing, exploration of space, and/or guided contemplation.<br><br>**EK 5.3A2:** Learning requires practice through an iterative process of thinking/rethinking, vision/revision, and writing/rewriting. |
| | | **EK 5.3A3:** Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation.<br><br>**EK 5.3A4:** Scholars reflect on how the inquiry process helped them deepen their understanding, make important connections, and develop greater self-direction. |
| | ***LO 5.3B:*** *Reflecting on experiences of collaborative effort.* | ***EK 5.3B1:*** *Reflection acknowledges the impact of actions on both the group and individual contributions, noting the reasons for such actions, assumptions made, and whether or not such actions and assumptions hindered or helped the achievement of the group's and individuals' tasks.* |
| | **LO 5.3C:** Reflecting on the larger significance of engaging in the overall inquiry process and producing a completed scholarly work. | **EK 5.3C1:** Reflective scholars explore potential future directions for their inquiries and the development of their own scholarship or bodies of work.<br><br>**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. |

| **Enduring Understandings**<br>(Students will understand that . . . ) | **Learning Objectives**<br>(Students will be skilled at . . . ) | **Essential Knowledge**<br>(Students will know that . . . ) |
|---|---|---|
| **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. | **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. | **EK 5.4A1:** Peer review should be based on guidelines and defined criteria appropriate to the work. |
| | **LO 5.4B:** Engaging in peer review to receive and consider responses to their work. | **EK 5.4B1:** Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.<br><br>**EK 5.4B2:** Communities of scholars produce, present, and perform effectively when participants actively seek and provide feedback. |

## Formative Assessments

In addition to developing instructional activities and units of study that engage students in the AP Research course content, teachers should develop formative assessments to effectively prepare students for the AP Research through-course performance task components: the Academic Paper and the Presentation and Oral Defense.

Examples of formative assessments and suggestions for when to implement them are described in the table below. These are not meant to be graded assessments; they are intended as opportunities for students and teachers to evaluate student progress, address problems or misconceptions, and improve student learning.

| Timeline | Formative Assessment | Purpose |
|---|---|---|
| September–October | Rubric and Evaluation of Papers | Apply assessment rubric components for the academic paper to sample student papers and identify the different levels of achievement evidenced in those samples. |
| | Annotated Bibliography I: Topic of Inquiry Background | Effectively search for and identify a broad range of perspectives and scholarly sources of information for the chosen field of study. |
| | Focused Topic of Inquiry | Exhibit knowledge of the field of interest and develop a narrow, novel, researchable problem, topic, or idea. |
| October–November | Peer Review of Research Questions | Differentiate between well- and poorly-formed research questions, and offer/receive feedback on research question drafts. |
| | Finalization of Research Question and Purpose of Inquiry | Develop a clearly articulated research question that is capable of being researched at this level and clearly articulate the purpose/goals of the inquiry. |
| | Annotated Bibliography II: Discipline-Specific Style with Literature Review | Perform an in-depth literature review that outlines the scholarly source materials used and how the materials offer information and views relating to the question. Demonstrate comprehensiveness of the literature review as exhibited by breadth, relevance, currency, availability, and authority within chosen resources, using the discipline-specific style common to the field of study. |
| | Annotated Bibliography III: Inquiry Methods of the Field of Study | Identify the research question, variables, measurements, and limitations within published quantitative, qualitative, and mixed-methods research studies. Differentiate between the purpose and components of quantitative, qualitative, and mixed-methods studies. |

| Timeline | Formative Assessment | Purpose |
|---|---|---|
| October–November *(continued)* | Poster Presentation of Research Proposal | Effectively articulate the focused topic of inquiry, research question, overview of the knowledge of the field, gap the chosen inquiry fills, and selected or designed method of inquiry to collect data to address research question or inquiry topic. |
| November–March | Inquiry Method Design | Describe procedures used for analysis in sufficient detail to permit understanding of how the data were analyzed and the processes and assumptions underlying specific techniques. Evaluate the fit between the purpose of the proposal, its research design, and its data collection strategy. |
| | Biweekly Work in Progress Interview | Exhibit regular maintenance of a research portfolio to record revisions, amendments, and reflections during the inquiry process. Prepare and periodically update timetable or project plan that clearly outlines what activities must be accomplished and the deadlines by which the objectives of the course must be achieved. |
| | Biweekly Peer Review | Review and revise the elements of the academic paper with attention paid to the purpose, research question, and research method to ensure clarity and alignment and to address peer, teacher, and expert adviser feedback. |
| March–April | Practice Presentations | Exhibit polished articulation and effective presentation of the inquiry performed. |
| | Peer Panels | Exhibit depth of knowledge of topic of inquiry and articulation of choices made in design and interpretation/synthesis of evidence through the research project through responses to feedback and suggestions for revision. |
| May–End of School | Process and Reflection Portfolio: Exit Interview | Articulate moments of insight, challenge, and change in thought processes as exhibited by the curation of the inquiry process in the portfolio. |

## Teaching the Skills

The focus of the AP Capstone Program courses is on skill development: students practice, refine, and master the skills critical for academic success. The curriculum framework identifies the learning objectives and essential knowledge that address the core skills listed below in more detail. As teachers create instructional units, they should carefully plan so that such skills are developmentally sequenced and appropriate scaffolding is provided. Using the representative instructional strategies illustrated in the table below, teachers should provide AP Research students with multiple opportunities to engage in the core skills of the course.

| Core Skill Area | Description | Representative Instructional Strategies |
|---|---|---|
| **Identifying and Refining Research Questions** | The process of narrowing a scope of interest into a research question to serve as the foundation of a long-term investigation or inquiry. | **Graphic Organizers**<br>Teachers provide a visual system for organizing multiple ideas, perspectives, and/or arguments and their supporting evidence for the purpose of narrowing a field of interest into a focused problem, topic of inquiry, or research question. Examples include Venn diagrams, flow-charts, and mind maps.<br>**Question Formulation Technique**<br>Teachers provide a stimulus from which students openly brainstorm questions, categorize questions as *open* or *closed*, and work on improving them.<br>**I-Search**<br>Students perform a quick search and complete a quickwrite that identifies the research questions within three to five published research studies and lists the criteria that make these research questions capable of sustaining a long-term scholarly study.<br>**Peer Review**<br>Students work with peers and expert advisers to critique and revise research questions to be focused, open-ended, and capable of sustaining a long-term investigation.<br>**Elevator Pitch**<br>Students present a 2-minute summary of the chosen topic of inquiry, research question, and purpose of the study to determine whether or not others clearly understand the focus of the study. |

| Core Skill Area | Description | Representative Instructional Strategies |
|---|---|---|
| **Seeking and Synthesizing Background Information** | The process of becoming familiar with and synthesizing what others have discovered about the topic so that the scholar can verify the existence of a problem or gap in the knowledge base to form the basis of a long-term investigation. | **Working with LEADS**<br>Students identify others' studies and findings in order to:<br>› **L**ay the foundation for their own study<br>› **E**lucidate the selected problem or topic of inquiry<br>› **A**nalyze why their study is appropriate<br>› **D**escribe why their study is capable of solving a problem or producing a work<br>› **S**how studies similar to theirs<br>**Annotated Bibliography of Context and Background**<br>Students perform a review of the literature of the field. For each source/article students write a brief summary of a text and a commentary on its usefulness to the inquiry along with the citation.<br>**Source Mining**<br>Students review the bibliographies of research studies or articles on a topic to see which names or works appear repeatedly to get an overview of key scholars in the field. |
| **Aligning Study Design** | The process of identifying an aligned, feasible research or inquiry design to accomplish the purpose of the research question and/or project goal while taking into consideration time constraints, availability of resources, participant accessibility, and paperwork due to ethics guidelines. | **Annotated Bibliography of Methods**<br>Students write citations and brief summaries of the research questions and methods of scholarly, peer-reviewed studies on their chosen topic along with commentaries on those methods' alignment with their own chosen study design or approach.<br>**Poster Presentation and Peer Review**<br>Students present a poster showing the research question, purpose of study, background and context information, and chosen or designed method for collecting information to engage others in peer reviewing the feasibility and alignment of the study design, approach, or method. |

| Core Skill Area | Description | Representative Instructional Strategies |
|---|---|---|
| **Analyzing and Evaluating Findings** | The process of interpreting the significance of the findings, results, or product and exploring connections to the original research question and project goal. | **Flow Chart**<br>Students present the connections between the research question and information collected and rank the significance or importance of the findings to the purpose of the study.<br>**Statistical Analyses**<br>Students use descriptive or inferential statistics to categorize and summarize large data sets to determine the significance of the data to the research question and purpose of the study.<br>**Data Table and Graphical Analyses**<br>Students plot or categorize images, graphs, and/or other visual presentations of data or information into chunks for the purpose of determining the significance of the findings or results to the research question and purpose of the study. |
| **Engaging with Discipline-Specific Expert Advisers** | The process of communicating with experts in the discipline or field of study to obtain guidance and feedback on one's research question, study purpose, interpretation of findings, or extended piece of scholarly work. | **Online File Access and Feedback**<br>Students use online word processors (e.g., Google Docs) and storage systems (e.g., DropBox) to share documents and get feedback from experts in the field or discipline of study.<br>**Email or Video Chat**<br>Students schedule regular communication via text or video platform with an expert in the discipline or field of study. |
| **Peer Review** | The process of providing and receiving timely, constructive feedback according to a set of guidelines in order to improve one's critical eye and scholarly work. | **Rubric Review**<br>Students identify and comment on aspects of sample student work that align with a designated rubric's criteria.<br>**Compliments and Suggestions**<br>Using peer-editing guidelines, students provide three positive notes and three revision suggestions on peers' scholarly work. |
| **Showcasing Scholarly Work** | The process of conveying a clear message in a way that engages and appeals to a specific audience. | **Public Practice and Peer review**<br>Students provide structured reviews of one another's presentations according to a set of established guidelines (e.g., must not be personal, must be constructive with suggestions for improvement). |

| Core Skill Area | Description | Representative Instructional Strategies |
|---|---|---|
| **Showcasing Scholarly Work** *(continued)* | The process of conveying a clear message in a way that engages and appeals to a specific audience. *(continued)* | **Videotaping: Self-Evaluation and Reflection** Students review recordings of their own presentations with guided reflection questions focusing on specific techniques. **Practice Modeling** Teachers model for students the different techniques for emphasizing ideas and engaging an audience (e.g., eye contact, vocal variety, emphatic gestures). |
| **Defending Inquiry Outcomes** | The process of demonstrating the significance of one's research by explaining the research process, findings, conclusions, and reflections to those in attendance. | **Peanut Gallery** Students deliver short presentations to their peers, with their peers asking critical questions and providing constructive feedback on the clarity, validity, and coherence of the scholarly work. |
| **Reflecting** | The process of making learning goals, assessing one's achievement toward such goals, and identifying both challenges that hindered and effective strategies that helped one achieve the goals. | **Research Process and Reflection Portfolio** Students document and curate scholarly work with reflective commentary on the artifacts they've chosen to reflect moments of insight, clarity, and growth. Students record documentation of daily work, questions, and challenges pertaining to the development and completion of the scholarly inquiry, including responses to such guiding reflection questions as: › Identify personal insights, moments of critical questioning, and comments or ideas from today's work that have impacted you. › Describe why these insights, questions, and ideas are important to you. What effect do they have and what dilemmas, questions, or possibilities do they raise? › How do these issues affect the clarity, order, confusion, or chaos of your thinking? |
| **Strengthening Self-Directedness and Time Management** | The process of personally identifying tasks, setting deadlines, and holding oneself accountable to achieve a learning goal or create a scholarly product. | **Biweekly WIPs** Teachers provide opportunities for scholars to present their work in progress (WIP) to their peers and to receive feedback on addressing challenges, time management, or even data interpretation. |

# AP Research Timeline

## Academic Year 1

**AP Seminar instruction begins in the fall**

## Academic Year 2

**AP Research instruction begins in the fall**

| DATE | ACTIVITY |
|---|---|
| June–August | AP Research professional learning. |
| Summer | **AP Classroom** and **AP Registration and Ordering** open. |
| August–September | AP Research instruction begins. Students can access EBSCO and Turnitin through the **AP Digital Portfolio** once they have enrolled in their AP Research class section in My AP. |
| October | Preferred deadline for AP coordinators to order AP Exams through **AP Registration and Ordering**. See **AP Central** for current deadline. |
| November 15, 11:59 p.m. ET | Final deadline for the AP coordinator to submit the exam order through **AP Registration and Ordering**. Exams can be ordered or canceled after this date, although a fee applies in some cases. See **AP Central** for current deadline. |
| November 30 | Recommended deadline for students to submit and teachers to approve AP Research Proposal Forms. |
| December | Required online scoring training for AP Research launches. |
| January 31 | Final deadline for new teachers to complete and returning teachers to renew the **AP Course Audit**. |
| January–March | Begin scheduling current AP Seminar students for AP Research. |
| March | Spring course orders and fall order changes deadline for AP coordinators to make final updates to the school's order through **AP Registration and Ordering**, if needed. Fees may apply. See **AP Central** for current deadline. |
| March | Recommended deadline for all AP Research teachers to complete required online scoring training modules. |
| April 30, 11:59 p.m. ET | Deadline for all student work to be submitted as final in the **AP Digital Portfolio**. |
| May 10, 11:59 p.m. ET | Deadline for teachers to submit scores for all presentations and complete affirmations for required checkpoints in the AP Digital Portfolio. |
| May–June | AP Research teachers should meet AP Seminar students to discuss the course, get students ready to work with an expert adviser, identify a topic of interest, and develop a research question. |
| July | AP score reports, including AP Capstone awards, released online. |

# AP Research Performance Task: Academic Paper and Presentation and Oral Defense

## Task Overview

In AP Research, you will further the skills you acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information as you address a research question/project goal. To that end, you will develop a research question/project goal on a topic of your choosing in an area of personal interest. You will submit an inquiry proposal (see Inquiry Proposal Form, pp. 54-55) for the teacher's feedback to help you refine your research question/project goal/method and ultimately approve your proposal prior to you engaging in the work.

With assistance from the teacher, you may identify one or more expert adviser(s) — internal or external to the school — to serve as an additional resource. These individuals should be experts in the chosen discipline or field that you are investigating or in the research method that you choose to employ.

Under the teacher's guidance — and using the expert advisers' knowledge base as needed — you will design or choose a method to collect data and information and then analyze, evaluate, and select relevant and credible evidence to develop a logical, well-reasoned argument or aesthetic rationale (directly addressing your research question/project goal) that results in an academic paper of 4,000–5,000 words.

In addition to completing your research paper, you will:

- arrange for a viewing of additional scholarly work (where applicable)
- deliver a presentation (using appropriate media)
- defend your research design, approach, and findings to an oral defense panel

## Task Directions (Proposal Process, Academic Paper, Presentation and Oral Defense)

1. **Question, Proposal, and Research**
   - Identify a research question/project goal of your own choosing in an area of personal interest.
   - Gather initial information for background and context on your research question/ project goal and area of personal interest.
   - Choose or design a research method and identify resources to develop your research proposal.
   - Submit a proposal form to receive approval prior to starting your inquiry.

(*continues*)

- Be prepared to obtain Institutional Review Board (IRB) approval if engaging in research involving human subjects when required.
- Gather additional information, data, and evidence through a carefully chosen and aligned research method.
- Describe what you hope to learn, achieve, and/or create as a result of your inquiry.

With your teacher's assistance, connect with one or more discipline-specific expert advisers (internal or external to the school) to advise you through the development of your inquiry processes (if your inquiry warrants the use of a field expert or discipline-specific expert adviser).

Maintain a portfolio of your inquiry processes, your communication with your teacher and expert adviser(s), and reflections on your thought processes and any successes and challenges you encounter. Your teacher will be required to affirm to your completion of your PREP and routine progress checks once you have submitted your work as final. **NOTE: Students will receive a zero for the Academic Paper if the affirmations are not completed by the teacher.**

2. **Academic Paper (75% of the AP Research score)**
   - Analyze, evaluate, and select evidence to develop a logical, well-reasoned argument or aesthetic rationale and conclusion in an academic paper of 4,000–5,000 words that addresses the research question/project goal and conveys your perspective and new understanding as a result of engaging in your research process.
   - You must avoid plagiarism by acknowledging, attributing, and/or citing sources throughout the paper and by including a bibliography. **Throughout the year and prior to submission, teachers and you should constantly check work for plagiarism** (see the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information). **Teachers and you should constantly check work to ensure that no unacceptable use of generative AI tools were used** (see the AP Capstone Policy on Use of Generative Artificial Intelligence (AI)).
   - Students must also observe ethical practices when gathering information through means such as surveys, interviews, or focus groups, and be prepared to sign agreements with individuals, institutions, or organizations that provide primary and private data.
   - The body of the academic paper must contain the elements listed in the following table. These elements should be presented in a style and structure appropriate to the discipline in which the topic resides (e.g., psychology, science, music).
   - Graphs, figures, data tables, images, appendices, abstract, footnoted citations, and the bibliography are not part of the total word count for the academic paper. Word count does include titles, sub-headings, and in-text citations.
   - Abstracts, if included, are not considered part of the body of the academic paper and are not assessed. The academic paper must be written for an educated, non-expert audience.
   - Once your paper is completed, remove any references to your name, school, and teacher, and upload your document to the AP Digital Portfolio as directed by your teacher.

| Required Element | Description |
|---|---|
| **Introduction and Literature Review** | Introduces research question/project goal and reviews previous work in the field.<br><br>Synthesizes the varying perspectives in the scholarly literature to situate the research question/project goal within a gap in the current field of knowledge. |
| **Method, Process, or Approach** | Explains and provides justification for the chosen method, process, or approach and its alignment with the research question. |

(*continues*)

| Required Element | Description |
|---|---|
| **Results, Product, or Findings** | Presents the findings, evidence, results, or performance/exhibit/product generated by the research method. |
| **Discussion, Analysis, and/or Evaluation** | Interprets the significance of the results, performance/exhibit/product, or findings; explores connections to original research question/project goal. |
| **Conclusion and Future Directions** | Articulates the new understanding generated through the research process and the limitations of the conclusion or creative work.<br>Discusses the implications to the community of practice.<br>Identifies areas for future research. |
| **Bibliography** | Provides a complete list of sources cited and consulted in the appropriate disciplinary style. |

**3. Presentation and Oral Defense (25% of the AP Research score)**

Upon completion of your Academic Paper, you will develop a 15–20 minute presentation (using appropriate media) and deliver it to an oral defense panel of three evaluators. Like the academic paper, the presentation provides an opportunity for you to showcase your research by communicating effectively and succinctly to an audience of educated, non-experts. If your academic paper is accompanied by an additional piece of scholarly work (e.g., performance, exhibit, product), you must arrange for the teacher and panelists to view this work prior to the presentation and oral defense. Your oral presentation should be no longer than 15 minutes to ensure at least 5 minutes for your oral defense.

The presentation should distill your research by:

- Identifying your research question/project goal
- describing and explaining initial assumptions and hypotheses/ideas and their relation to the your personal conclusion
- providing the rationale for choices made during the research process (cite or attribute sources or evidence as needed)
- explaining the research process/method, evidence generated, conclusions, and implications
- engaging the audience through a dynamic use of design, delivery, and performance techniques
- using a medium and design specifically tailored to engage your audience and illustrate your points

Following the presentation, an oral defense panel will ask three questions of the student. The panel will consist of the AP Research teacher and two additional adult panel members (preferably expert advisers or discipline-specific experts) chosen by the AP Research teacher. This evaluative component is designed to assess your articulation of the inquiry process, understanding of your results and conclusions, and reflection on your research experience.

Three of these questions will be chosen from the following oral defense question list. The oral defense panel will ask one question pertaining to your research or inquiry process, one question focused on your depth of understanding, and one question about your reflection throughout the inquiry process as evidenced in your process and reflection portfolio (PREP). The wording of the questions may be tailored to your specific project. In addition, a fourth question is permitted if a panel member wants you to clarify one of your answers to a previous question. Any additional questions beyond the fourth question are at the discretion of the teacher but will not be used in scoring the oral defense.

(*continues*)

## Oral Defense Questions

**Research/Inquiry Process [choices made throughout the research process]**

1. How did your initial exploration of the scholarly conversation lead to your final research question/project goal?
2. How did your review of the methods used by scholars in the field inform your selection of a research method/process that is aligned with your research question/project goal?
3. How did the choices you made when designing or implementing your research method impact your research process?
4. How did you determine which results generated by your research method were most important in informing your new understanding?

**Depth of Understanding [relating student data/results to the new understanding]**

1. How does your new understanding address a gap in the scholarly conversation?
2. How did the limitations of your method or data influence your new understanding?
3. What are the real-world implications or consequences related to your findings?
4. How do your findings provide directions for future research in the field?

**Reflection Throughout the Inquiry Process [how the inquiry process informs growth and self-awareness as a researcher]**

1. Think back to the initial curiosity that sparked your inquiry. What other curiosities do you have and how has this process prepared you to explore them?
2. How did you handle the uncertainty of the research process?
3. If you could revisit your research process, what would you do differently and why?
4. What was the most important research skill you developed as a result of this process, and how might you apply it to your future endeavors?
5. How did your expert adviser facilitate your deeper understanding of the research process?

   *Note: This question should only be asked if the student engaged with an expert adviser.*

(*continues*)

## Role of the Teacher in Performance Tasks

Performance Tasks in the AP Capstone courses are summative assessments and contribute to the AP score. Submissions must be entirely the student's own work. Teachers must adhere to the following rules when students are working on these tasks. Teachers of the AP Capstone courses manage the assessment components and all related processes. Teachers should be transparent with students about the role of the teacher, other staff, and/or expert advisers in these courses and what individuals providing guidance to students should and should not do.

**AP Research: Role of the Teacher**

| DO | DO NOT |
|---|---|
| Make sure students, expert advisors, and panel members are aware of the timeline, assessment task components, and scoring criteria/rubrics. | Assign, provide, distribute, or generate research questions or project goals for students. |
| Hold work-in-progress meetings with students to ask questions, monitor, discuss, and provide guidance on progress.<br><br>Direct the students to the areas of the rubrics where their work may need improvement. | Write, revise, amend, or correct anything that is part of, or contributes to, the final work submitted for assessment. |
| Engage in whole class teaching of skills pertinent to the performance task as students are working on their research and/or presentations. | Provide specific, directive feedback to individuals or groups (teachers must not tell students what to do). |
| Suggest possible resources that can help students further their research (e.g., additional data bases, local expert advisers, library assistance) – so that students are not disadvantaged in their exploration. | Conduct research or provide specific sources, articles or evidence for students. |
| Provide effective guidelines for peer-to-peer review and feedback.<br><br>Co-ordinate opportunities for students to engage in peer review. | Proofread or copyedit student work for students. |
| Provide students with the list of possible oral defense questions. | Identify the exact questions a student will be asked prior to his or her defense. Students should be prepared to answer every one of the oral defense questions. |
| Provide any necessary assistance to students in finding external expert advisers if warranted (experts in the field or discipline). | Violate local, district, state and/or country policies regarding student engagement with external expert advisers. |
| Check AP deadline and monitor student submissions in the digital portfolio. Ensure students meet deadlines, work is submitted to the correct place for the Academic Paper (AP), and has been checked for plagiarism and generative AI use. | Leave students to submit work unsupervised. |

(*continues*)

**AP Research: Role of the Teacher**

| DO | DO NOT |
|---|---|
| Score student presentations and oral defense (POD) and submit the scores in the AP Digital Portfolio by the May 10 at 11:59 p.m. ET submission deadline. | Release these scores to students. |
| Review final student work and affirm to authenticity in the Digital Portfolio by May 10 at 11.59 p.m. ET. | Forget to complete affirmations in the Digital Portfolio. **NOTE: Students will receive a zero for the Academic Paper if the affirmations are not completed by the teacher**. |

(*continues*)

## Role of Expert Advisers in the Academic Paper

Should a student require such, they may engage in communication with one or more expert advisers. Expert advisers may be drawn from

- the faculty
- the community
- local or nonlocal businesses and industries
- higher education institutions

Expert advisers represent a resource for teachers and students in a variety of areas (i.e., expertise in specific disciplines, fields, or methods). Teachers must ensure students are transparent with any expert advisers about what they should and should not do.

**AP Research: Role of Expert Advisers**

| DO | DO NOT |
|---|---|
| Engage in conversation with guiding questions and provide general feedback to students regarding their choice of research questions/ project goals, data- or information-collection methods, and analysis strategies. | Generate research questions/project goals for students.<br>Provide unsolicited help (i.e., students must initiate conversations that call for expert adviser feedback, such as asking a question to which the expert adviser can then respond). |
| May hold work-in-progress meetings with students to ask questions, monitor, discuss, and provide guidance on progress. | Write, revise, amend, or correct anything that is part of, or contributes to, the final work submitted for assessment.<br>Provide specific, directive feedback to individuals (expert advisers must not tell students what to do). |
| Suggest possible resources that can help students further their research (e.g., additional data bases, local expert advisers, library assistance) – so that students are not disadvantaged in their exploration. | Conduct research or provide specific sources, articles or evidence for students. |
| Help students with the mechanics of the research process (e.g., strategizing to find answers to questions or helping them understand how to access resources). | Provide unsolicited help (i.e., students must initiate conversations that call for expert adviser feedback, such as asking a question to which the expert adviser can then respond). |
| Provide general feedback to students about elements of their papers or presentations that need improvement.<br>Direct the students to the areas of the rubrics where their work may need improvement. | Write, revise, amend, or correct student work (anything that is part of, or contributes to, the final work submitted for assessment).<br>Provide or identify the exact questions a student will be asked prior to his or her defense (i.e., students should be prepared to answer every one of the oral defense questions that have already been provided to the students in advance). |

# AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information

A student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else through citation, attribution or reference in the body of the work, or through a bibliographic entry, will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

A student who incorporates falsified or fabricated information (e.g. evidence, data, sources, and/or authors) will receive a score of 0 on that particular component of the AP Seminar and/or AP Research Performance Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Team Multimedia Presentation will receive a group score of 0 for that component of the Team Project and Presentation.

# AP Research Curricular Requirements

The curricular requirements are the core elements of an AP course. The curriculum framework and supporting documents provided during professional development serve as resources to assist teachers in determining the appropriate level of evidence to include within their syllabi to meet or exceed the requirements. (All AP Research teachers must attend College Board AP Research intensive training prior to their first year of teaching the AP Research course.)

Evidence of the following curricular requirements should be included in the course syllabus developed by the teacher and submitted to College Board for review and approval.

- Students develop and apply discrete skills identified in the learning objectives of the enduring understandings within the following five big ideas:
  - Question and Explore
  - Understand and Analyze
  - Evaluate Multiple Perspectives
  - Synthesize Ideas
  - Team, Transform, and Transmit
- Students develop an understanding of ethical research practices and the AP Capstone™ Policy on Plagiarism and Falsification or Fabrication of Information.
- In the classroom and independently (while possibly consulting any expert advisers), 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:
  - Introduction and Literature Review
  - Method, Process, or Approach
  - Results, Product, or Findings
  - Discussion, Analysis, and/or Evaluation
  - Conclusion and Future Directions
  - Bibliography
- Using a process and reflection portfolio (PREP), students document their inquiry processes, communication with their teachers and any expert advisers as needed, and reflections on their thought processes. Students have regular work-in-progress interviews with their teachers to review their progress and to receive feedback on their scholarly work. Failure to document authentic work and inquiry process in the PREP throughout the year and to engage in regular work-in-progress checks with the student's teacher will result in a score of zero on the Academic Paper for this course.
- Students develop and deliver a presentation (using an appropriate medium) and an oral defense to a panel on their research processes, method, and findings.