

# AP Research Course Syllabus



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Welcome to the second year of AP Capstone! AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long research-based investigation to address a research question. In the AP Research course, students further skills acquired in the AP Seminar course by understanding research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information as they address a research question. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an Academic Paper (AP) of approximately 4000–5000 words (accompanied by a performance or exhibition of product where applicable) and a Presentation with an Oral Defense (POD).

## Course Goals

Although 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)
- Employ appropriate disciplinary research methods to develop, manage, and conduct an in-depth study or investigation in an area of student's own interest, culminating in a 4000–5000 word paper (accompanied by an additional piece of scholarly work — where applicable — to be performed or exhibited).
- Present (using fitting media) and defend the research design, approach, and findings to a panel.
- Document their processes and curate the artifacts of the development of their scholarly work in a portfolio.

## AP Equity & Access Policy

The College Board strongly encourages educators to make equitable access a guiding principle for AP programs by providing all willing and academically-prepared students the opportunity to participate in AP courses. We encourage the elimination of barriers that restrict access to AP courses for students from ethnic, racial, and socioeconomic groups that have traditionally been underserved. Schools should make every effort to ensure their AP classes reflect the diversity of their student population. The College Board also believes all students should have access to academically-challenging coursework before they enroll in AP courses, 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.

## Formative & Summative Assessments

The AP Research course continues building upon AP Seminar skills to form new understandings of a topic selected by the student and approved by the AP Research Teacher through an Inquiry Proposal process. Students are assessed on a variety of assignments, both in class and homework, as well as the Academic Paper and the Presentation and Oral Defense. The academic paper is approximately 4,000–5,000 words, and the presentation and defense take approximately 15-20 minutes.

## Formative and Summative Assessments (cont.)

Academic Paper (AP)	75% of AP score
Presentation and Oral Defense (POD)	25% of AP score
In-class assignments, completion of PREP portfolio, assigned groupwork, individual assignments, in-class time management, etc.	

The Academic Paper (AP) is an original 4,000-5,000 word academic paper that includes the following components: **(1)** Introduction; **(2)** Method, Process, or Approach; **(3)** Results, Product, or Findings; **(4)** Discussion, Analysis, and/or Evaluation; **(5)** Conclusion and Final Directions; and **(6)** Bibliography. While the AP Research Teacher and/or a consultant will provide guidance in the development of this paper, it is the student's own work. **Plagiarism with NOT be tolerated; any sources used by the student through direct quotations and/or paraphrasing, must be properly cited. Failure to do so will result in a ZERO grade for that component of the course (See "Academic Dishonesty" below).**

The research process in AP Research is not simply about collecting evidence or facts and then piecing them together. The research process is about *inquiry*—asking questions and coming to solutions and conclusions through serious and critical 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 derivative of, the ideas in the examined material. As a result, the research process is *recursive*, meaning students will continuously revisit ideas, seek new information when necessary, and reconsider and refine their research question(s), topic, and/or approach.

### The PREP Journal

To keep track of this process of inquiry, students are required to keep a digital Process and Reflection Portfolio (PREP), a formative assessment tool shared with the AP Research Teacher (See *Appendix A for details*). The PREP will allow students to document their experiences in the course. Students will continually use the PREP to chart their engagement with the QUEST ideas, with special attention paid to:

- their choice of a research question and what prompted their interest in the topic
- their research process, including important sources (e.g. documents, people, media)
- analysis of evidence as it becomes available
- changes in the direction of the project and/or initial assumptions
- ways in which students have worked on their own or as part of a larger academic community, and
- challenges encountered as well as relevant solutions attempted.

## **The PREP Journal** (cont.)

To demonstrate these experiences, the PREP may include annotated bibliographic entries of important sources, conversations with the Teacher and/or Consultant, personal reflections, commentary about course assignments and class notes, coursework assigned by the Teacher, and any other insights that contribute to a rich description of the development of the student in the course. As students will be required to have one-on-one appointments with the AP Research Teacher throughout the course to discuss their work, it is hoped the student will be able to manage his/her time effectively and use these meetings to continue developing and revising their work throughout the year. In-class assignments may also be collected digitally through the PREP.

Upon completion of the Academic Paper (AP), students will be required to plan and deliver a final summative assessment in the form of a Presentation of their work and an Oral Defense (POD). The presentation is expected to utilize various media to support and enhance the student's report of key findings, description of the chosen approach and any challenges, and a defense of the findings by answering questions posed by a panel comprised of the AP Research Teacher and two others.

Prior to engaging in research, students will submit to the AP Research Teacher an Inquiry Proposal Form, which clearly identifies the topic of study, research question(s), preliminary research, and methodological and ethical considerations. Only once approval has been granted will the student be allowed to begin the research process in earnest. If the proposed inquiry requires a more extensive consideration of ethics and potential harm (for example, involvement of human subjects), approval will not be granted until the Proposal has passed review by an Institutional Review Board (IRB).

AP Research students will be held to high standards of academic honesty and ethics. Preparing fairly and effectively for the completion of the paper and presentation tasks requires advanced planning and time management; many difficulties with plagiarism arise when students leave work to the last minute. Keep track of all sources used so you do not misattribute information.

Most work for this course will be submitted to Turnitin.com.

## **Academic Dishonesty & Plagiarism Policy**

The College Board policy on Plagiarism and Falsification or Fabrication of Information detailed below was revised from the 2017-2018 AP Capstone Implementation Guide and the AP Research Course and Exam Description, Effective Fall 2017.

Participating teachers shall instruct students to ethically use and acknowledge the ideas and work of others, as well as the consequences of plagiarism. 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 (i.e., through citation, through attribution, by reference, and/or through acknowledgment in a bibliographic entry) the source or author of any and all information or evidence taken from the work of someone else will receive a score of 0 on that particular component of the AP seminar and/or AP Research Performance Assessment Task. In AP Seminar, a team of students that fails to properly acknowledge sources or authors on the Written Team Report will receive a group score of 0 for that component of the Team Project and Presentation.

## **Academic Dishonesty & Plagiarism Policy (cont.)**

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 Assessment Task. In AP Seminar, a team of students that incorporates falsified or fabricated information in the Written Team Report will receive a group score of 0 for that component of the Team Project and Presentation.

Students will be assessed on their own learning and within the parameters established by the teacher/PLC. Academic dishonesty, or plagiarism, does not allow the teacher to clearly assess the student's learning. Any form of academic dishonesty will not be tolerated and may result in a "No Credit" for that assignment. Academic dishonesty scores will calculate as 0 in the final grade.

## **Course Textbook and Resources**

- Leedy & Ormrod (2016). *Practical research: Planning and design* (11<sup>th</sup> ed.). New York, NY: Pearson.
- AP Capstone Research Course and Exam Description. (2016). New York: College Board.
- AP Research Workshop Handbook and Resources (2016). New York: College Board.
- Various articles and academic resources for specific lessons
- Past AP student work (used with permission) for exemplars and discussion pieces

## **Student Expectations**

To be considered "on time," assigned homework must be turned in by the given timestamp or deadline (or, if a specific deadline is not stipulated or the assignment is a hardcopy, within the first few minutes of class). Assignments that are within one day late will receive up to a 50%-off penalty. Work that is over one day late will be scored a zero. If a student leaves campus early in the day and misses class, it is expected that the work be turned in beforehand. It should be assumed that all assignments are due whether or not a student is physically present in class. If a student arrives late to school, he or she should expect the assignment to be marked late. It should be noted that Mr. Benton is a creature of mercy, and the roles of grace and mercy in the late policy will be explained fully in class.

## **Required Course Supplies**

- Composition notebook
- Pens (blue or black ink)
- Colored pencils (at least 5 colors)
- Highlighters (at least 5 colors)
- USB flash drive
- Post-It Notes
- Planner (with '17-18 calendar)
- Google Drive account
- Professional email address
- Home computer/Internet access

## **Teacher Wish List**

- Canon #245 & 246 ink cartridges
- 5-hour Energy Shots
- Disinfecting wipes
- Hand sanitizer
- Paper towels
- Hand soap

## Curriculum Framework

AP Research is not tied to a specific content area. Rather, it emphasizes, and strives for competency in, core academic skills. Students gain Essential Knowledge (EK) (“What students will know...”) and develop and apply distinct skills identified in the Learning Objects (LO’s) (“What students will demonstrate...”) of the Enduring Understandings (EU’s) (“What students will remember in the long-term...”) within the following five Big Ideas, represented by the acronym **QUEST** (p. 9, Course and Exam Description).

**Question:** Read critically; pose questions and identify issues that compel you to want to explore further.

**Understand & Analyze Arguments:** Use specific tools to break down an idea of argument into parts that make sense to you. These tools include re-reading, questioning in the text, considering multiple perspectives.

**Evaluate Multiple Perspectives:** Identifying the variety of perspectives/POV/arguments of an issue. Consider any bias to determine the validity of that point of view.

**Synthesize Ideas:** Creating new perspectives after evaluating other varying perspectives. Establishing a unique position or claim using a variety of resources designed for a specific audience.

**Team, Transform, Transmit:** A collaborative endeavor communicated clearly and effectively so as to transform both participants and audience.

## Overview of Reasoning Processes (p. 7, Course and Exam Description)

The AP Capstone program encourages students to develop and practice reasoning processes that help them make intentional, strategic decisions. These reasoning processes are embedded within the following learning objectives:

- **Situating**—being aware of the context of one’s own as well as others’ perspectives, realizing individual bias can lead to unfounded assumptions
- **Choosing**—making intentional and purposeful choices, realizing choices have both intended and unintended consequences
- **Defending**—being able to explain and justify personal choices, logic, line or reasoning, and conclusions
- **Connecting**—seeing similarities within and across disciplines, concepts, and cultures that may at first seem disparate

## Employing Research and Inquiry Methods (p. 9, Course and Exam Description)

In the classroom and independently (as well as possible consulting with a mentor or expert), students learn and utilize 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:

1. Introduction
2. Method, Process, or Approach
3. Results, Product, or Findings
4. Discussion, Analysis, and/or Evaluation
5. Conclusion and Future Directions
6. Bibliography

## General Timeline

- August: Complete Tasks #1-4 from Research Packet. Create and share digital PREP portfolio with AP Research Teacher; discuss course expectations and the Performance Tasks using sample papers; choose a topic/issue; interact with selected readings; carry out preliminary research; begin to develop an annotated bibliography; and finalize research question(s) and proposals. Work in PREP.
- September: Present a preliminary inquiry proposal; work on proposals and reflect on feedback; continue with preliminary research, continue working on annotated bibliography; work in PREP; engage in one-on-one meetings with AP Research teacher and peer review activities; finalize Inquiry Proposal Form. ***Inquiry Proposal Forms due near the end of September.***
- October: Finalize the choice and design of their inquiry method, as well as research question(s), with careful consideration of ethical issues that may arise; engage in one-on-one meetings with AP Research teacher and peer review activities; work in PREP, finish annotated bibliography. ***Annotated Bibliography due in the middle of October.*** Develop information from Annotated Bibliography into a Review of the Literature. Work on research methods. ***Research Methods section due by the end of October.***
- November: Conduct research (interviews, surveys, additional projects, products, performances) needed to support paper; start analyzing findings; work in PREP; begin your study; engage in one-on-one meetings with AP Research teacher and peer review activities; finish introduction and literature review. ***Introduction and literature review sections due by the end of November.***
- December: Continue collecting data; work in PREP; work on literature review to ensure synthesis of what has already been done. ***Data collection must be complete in early December.***
- January: Finalize Results section. ***Results, Product, or Findings section due January 6<sup>th</sup>.*** Continue analyzing findings; work in PREP; engage in one-on-one meetings with AP Research teacher and peer review activities; work on Discussion section. ***Discussion, Analysis, and/or Evaluation section due January 13<sup>th</sup>.*** Obtain feedback on paper and revise. ***First rough draft of paper due near the end of January.***
- February: Work in PREP; engage in one-on-one meetings with AP Research teacher and peer review activities; continue working on paper and reflecting on feedback; ***at least two peer reviews must be complete by mid-February.***
- March: Finalize paper. The ***Academic Paper is due by mid-March.*** Work in PREP; engage in one-on-one meetings with AP Research teacher and peer review activities; plan Presentation and Oral Defense.
- April: Work on presentation; engage in one-on-one meetings with AP Research teacher and peer review activities; work in PREP; ***Presentation and Oral Defenses will take place in mid-April (dates will be finalized in the winter).*** All Academic Papers, Presentations and Oral Defenses will be scored and results uploaded by the AP Research Teacher to the College Board by the end of April.
- May: Complete AP Exams in other subject areas to qualify for the AP Capstone Diploma; finish and submit PREP; work on AP Research course for next year; revise and submit work to journals, conferences, or other academic competitions; final exams.

## Unit One (Weeks 1:1-4): Intro to AP Res., Review of AP Sem. Skills, Narrowing Your Topic

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### Learning Objectives and Essential Knowledge:

EK:1.1C1, 1.1C2, 1.1C3, 1.1D1, 1.1D2, 1.1D3, 1.1E1, 1.1E2, 2.1B1, 2.1C1, 2.1C2, 2.2A2, 2.2B1, 2.2B2, 2.2B3, 2.2B4, 2.2B5, 2.2B6, 4.1B1, 4.1B2, 4.1B3, 4.1B4

LO: 1.1C, 1.1D, 1.1E, 2.1B, 2.1C, 2.2A, 2.2B, 4.1B

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### Enduring Understandings:

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.

2.1: Authors express their ideas, perspectives, and/or arguments through tier works. The first step in evaluation an author's perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.

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.

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

### Assessments:

#### Formative: *(See Appendix B for descriptions)*

- Ways of Knowing activity
- Understanding terms associated with research
- Graphic representations of processes
- Library/search skills and tools
- Create problem statements and research questions
- Teacher-student conferences

#### Summative:

- PREP entries
- Preliminary problem statements
- Preliminary and finalized research questions
- Inquiry Proposal Form
- Annotated bibliography entries

## Unit Two (Weeks 1:5-8): Literature Review, Research, and Methods

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### Learning Objectives and Essential Knowledge:

EK: 1.1D3, 1.1E1, 1.1E2, 1.2A1, 1.2A2, 1.2A3, 1.3A1, 1.3A2, 1.3A3, 1.3A5, 1.3A6, 1.3A7, 2.1B1, 4.1B1, 4.1B2, 4.1B3, 4.3A1, 4.3A2, 4.3A3, 4.3A4, 4.3A5, 5.1E2, 5.1F1, 5.3A2, 5.3A3, 5.4A1, 5.4B1, 5.4B2

LO: 1.1B, 1.1E, 1.1A, 1.2A, 1.3A, 1.3B, 1.3C, 2.1A, 2.1B, 2.2A, 2.2B, 2.3A, 2.3B, 3.1A, 3.2A, 4.1A, 4.2A, 4.2C, 4.3A, 4.4A, 5.1A, 5.1B, 5.1E, 5.1F, 5.3A, 5.4A, 5.4B

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### Enduring Understandings:

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.

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.

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.

2.1: Authors express their ideas, perspectives, and/or arguments through tier works. The first step in evaluation an author's perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.

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

4.3: Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.

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.

5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.

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.

### Assessments:

#### Formative:

- Research terminology review/application
- Evaluate credibility of sources (PAARC test)
- Create problem statements and research questions
- Speed-dating
- Rubric exploration with sample papers
- Presentation peer-reviews
- Refining search skills and creating an annotated bibliography

#### Summative:

- Synthesize data to form a new perspective
- Teacher-student conferences
- PREP entries
- CRAAP test analysis
- Annotated bib. entries
- Elevator speech/poster presentation
- Inquiry Proposal Form

## Unit Three (Weeks 1:9-2:3): Plagiarism, Literature Review, Methods of Research

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### Learning Objectives and Essential Knowledge:

EK: 1.1C2, 1.1E2, 1.4B1, 1.4B2, 1.4B3, 1.4B4, 1.4B5, 1.4B6, 1.4B7, 1.4B8, 1.4B9, 1.4D1, 1.4D3, 5.4A1, 5.4B1, 5.4B2

LO: 1.1C, 1.1E, 1.4B, 1.4D, 5.4A, 5.4B

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### Enduring Understandings:

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.

1.4: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.

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.

### Assessments:

#### Formative:

- Plagiarism policies and instruction
- Rubric exploration with sample papers
- Presentation peer-reviews
- One-on-one interviews
- Speed-dating
- Refining search skills and creating an annotated bibliography
- Examine ethical research practices
- Teacher-student conferences

#### Summative:

- PREP entries
- Annotated bibliography
- Elevator speech/poster presentation

## Unit Four (Weeks 2:4-3:1): Methods and Conducting Research

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### Learning Objectives and Essential Knowledge:

EK: 1.1D1, 1.4B1, 1.4B2, 1.4B3, 1.4B4, 1.4B5, 1.4B6, 1.4B7, 1.4B8, 1.4B9, 1.4C1, 1.4C2, 1.4C3, 1.4D1, 1.4D2, 1.4D3, 2.1B1, 2.1B2, 2.1C1, 2.1C2, 2.2A1, 2.2A2, 2.2A3, 2.2B1, 2.2B2, 2.2B3, 2.2B4, 2.2B5, 2.2B6, 2.2C2, 2.2D1, 3.1A1, 3.1A2, 3.1A3, 3.2A1, 3.2A2, 4.4A1, 4.5A1

LO: 1.1D, 1.4B, 1.4C, 1.4D, 2.1B, 2.1C, 2.2A, 2.2B, 2.2C, 2.2D, 3.1A, 3.2A, 4.4A, 4.5A

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### Enduring Understandings:

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.

1.4: There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry.

2.1: Authors express their ideas, perspectives, and/or arguments through tier works. The first step in evaluation an author's perspective or argument is to comprehend it. Such comprehension requires reading, viewing, listening, and thinking critically.

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.

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.

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.

4.4: Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.

4.5: Arguments, choices, and solutions present intended and unintended opportunities, consequences, and implications.

### Assessments:

#### Formative:

- One-on-one interviews
- Rubric exploration with sample papers
- Peer writing groups
- Presentation peer-reviews
- Speed-dating
- Rubric exploration and application with sample videos of oral presentations
- Teacher-student conferences

#### Summative:

- PREP entries
- Presentations (Lit Review overview, Methods overview)
- Introduction with Literature Review

## **Unit Five (Weeks 3:2-6): Complete Research, Record Findings, Conduct Peer-review**

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### **Learning Objectives and Essential Knowledge:**

EK: 2.3A1, 2.3B1, 4.1A1, 4.1A2, 4.1A3, 4.1A4, 4.1A5, 4.1A6, 4.1A7, 4.1A8, 4.1A9, 4.1A10, 4.1A11, 4.1A12, 4.2A1, 4.2A2, 4.2A3, 4.2B1, 5.1A1[R], 5.1A2, 5.1B1, 5.1B2, 5.1B3, 5.1B4, 5.1C1, 5.1C2, 5.1C3, 5.1D1, 5.1D2, 5.1E1, 5.1E2, 5.1E3, 5.1F1, 5.1F2

LO: 2.3A, 2.3B, 4.1A, 4.2A, 4.2B, 5.1A[R], 5.1B, 5.1C, 5.1D, 5.1E, 5.1F

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### **Enduring Understandings:**

2.3: Arguments have implications and consequences.

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

4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.

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.

### **Assessments:**

#### **Formative:**

- One-on-one interviews
- Presentation peer-reviews
- Peer writing groups
- Speed-dating
- Rubric exploration/application with sample videos of oral presentations
- Mock presentations
- Teacher-student conferences

#### **Summative:**

- PREP entries
- Presentations (Results overview, Discussion overview, Conclusion/Future Directions overview)
- Results, Products, or Findings
- Discussion, Analysis, and/or Evaluation
- Conclusions and Future Directions

## **Unit Six (Weeks 3:7-4:4): Final Assessments: Academic Paper, Presentation & Oral Defense**

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### **Learning Objectives and Essential Knowledge:**

EK: 2.3A1, 2.3B1, 4.1A1, 4.1A2, 4.1A3, 4.1A4, 4.1A5, 4.1A6, 4.1A7, 4.1A8, 4.1A9, 4.1A10, 4.1A11, 4.1A12, 4.2A1, 4.2A2, 4.2A3, 4.2B1, 5.1A1[R], 5.1A2, 5.1B1, 5.1B2, 5.1B3, 5.1B4, 5.1C1, 5.1C2, 5.1C3, 5.1D1, 5.1D2, 5.1E1, 5.1E2, 5.1E3, 5.1F1, 5.1F2

LO: 2.3A, 2.3B, 4.1A, 4.2A, 4.2B, 5.1A[R], 5.1B, 5.1C, 5.1D, 5.1E, 5.1F

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### **Enduring Understandings:**

2.3: Arguments have implications and consequences.

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

4.2: Scholars responsibly and purposefully engage with the evidence to develop a compelling argument or aesthetic rationale.

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.

### **Assessments:**

#### **Formative:**

- One-on-one interviews
- Presentation peer-reviews
- Peer writing groups
- Speed-dating
- Explore rubric & apply with sample videos of oral presentations
- Mock presentations
- Teacher-student conferences

#### **Summative:**

- PREP entries
- Academic Paper (AP)
- Presentation and Oral Defense (POD)

## Unit Seven (Weeks 4:5-4:10): Beyond AP Research

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**Learning Objectives and Essential Knowledge:** (All previous skills, with particular focus on):

EK: 5.3A1, 5.3A2, 5.3A3, 5.3A4, 5.3C1, 5.3C2

LO: 5.3A, 5.3C

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### **Enduring Understandings:**

5.3: Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.

### **Assessments:**

#### **Formative:**

- One-on-one interviews
- Mentor AP Seminar students
- Adjusted AP Research class activity
- Teacher-student conferences

#### **Summative:**

- PREP entries (Portfolio due date TBA, end of May)
- Research posters
- Student proposal for improvements for next year's AP Research class

**Syllabus Agreement**

I have read and understand the details of Mr. Benton's AP Research course syllabus (either in print or online), including the course requirements, expectations, procedures, general timeline, and the plagiarism policy.

\_\_\_\_\_  
Student Name (print)

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Primary Phone

\_\_\_\_\_  
Student Email Address

\_\_\_\_\_  
Parent/Guardian Name (print)

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Primary Phone

\_\_\_\_\_  
Parent/Guardian Email Address

\_\_\_\_\_  
Parent/Guardian Relationship to Student

\_\_\_\_\_  
Other Number(s)-please specify

## **Appendix A: Process and Reflection Portfolio (PREP)**

A digital portfolio used to document students' development as they investigate their research questions, thereby providing evidence that students have demonstrated a sustained effort during the entire inquiry process.

This portfolio will include:

1. Table of Contents
2. Completed and approved Inquiry Proposal Form
3. IRB Completion Certificate
4. Reflection responses to questions which address all 5 big ideas in the QUEST curriculum framework
5. Annotated Bibliography
6. Photographs, charts, spreadsheets, and/or links to videos or other visual research or project artifacts
7. Draft versions of selected sections of the AP Research paper
  - a. Introduction
  - b. Method, Process, Approach
  - c. Results, Product, or Findings
  - d. Discussion, Analysis, and/or Evaluation
  - e. Conclusion and Future Directions
8. Reflection responses to feedback from AP Research Teacher, peers, and/or expert
9. Notes in preparation for Presentation and Oral Defense
10. 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."

## **Appendix B: Formative Assessments**

**Adjusted AP Research Class Activity:** Students will provide feedback regarding AP Research class, things to keep, things to change, and any obstacles and ways to overcome obstacles. Teacher will utilize feedback to improve course for next year

**Ways of Knowing:** Student groups will complete the Ways of knowing worksheet and will also be assigned different disciplines (art, social sciences, natural sciences) and will collaborate and research the dimensions of understanding they believe are important to apply to an inquiry in this field. The group will also be required to address possible limitations that might be inherent in such an approach and how these might be addressed.

**Creating Problem Statements and Research Questions:** Student groups will review proposals and short articles to create problem statements and generate research questions. Students will identify and list criteria for effective research questions that are embedded in the questions generated.

**Evaluate Credibility of Sources (PAARC test):** Using documents provided by the teacher, student groups will collaborate to evaluate the credibility of the sources by applying the PAARC Credibility test questions. Student groups will then present their findings on specific aspects assigned to them to present in a whole group teacher led discussion.

**Examine Ethical Research Practices:** Student groups will read and review a selected research article that includes experiments involving human subjects. Students will collaborate to identify and list any possible ethical considerations that must be addressed in this study. The group will adapt an IRB template handed out from the teacher to address the particular ethical concerns identified in this study. Groups will then present their findings in a teacher-led whole group class discussion.

**Graphic Representations of Processes:** Student groups will create graphic organizers that details processes for: choosing a topic, choosing a research method, evaluating credibility, conducting research, and writing up findings. Whole group discussion will follow.

**Library/search skills and tools:** Students will be given a presentation by the librarian of websites and resources to successfully conduct research and cite sources. Small and whole group discussion will follow in which peers and the teacher will discuss how to utilize the resources effectively.

**Mentor AP Seminar Students:** Students will be paired up with AP Seminar students to provide guidance and encouragement regarding procedures, expectations, and rigor of the AP Research course.

**Mock Presentations:** In small groups, students will practice their PODs. Peers will provide feedback. Students will reflect on this activity through PREP entries.

**One-on-one Interviews:** Pairs will interview one another regarding research question(s), methods, and study significance, as well as possible obstacles to students' research. Pairs will give feedback on students' research and reflect on feedback received. Students will bring questions and reflection to teacher during teacher-student conferences.

## **Appendix B** (cont.)

**Peer Writing Groups:** In small groups, students will read and provide targeted feedback on peers' writing. Students will then reflect on feedback and revise writing.

**Plagiarism policies and instruction:** The teacher will present a lesson on plagiarism and the consequences of plagiarizing in academia. Whole group discussion will follow on ways to avoid plagiarism in research and writing.

**Presentation peer-reviews:** In groups, students will present their working research question(s) and methods. Peers will evaluate each other's question(s) and methods according to focus and feasibility, and give feedback. Students will reflect on peer feedback and make necessary changes.

**Refining Search Skills and Creating an Annotated Bibliography:** Student groups will mine assigned appendix articles for key words, phrases, and ideas and list these. Students will use templates provided to create sample annotated bibliography entries. Whole group discussion will follow in which student groups share the choices they made about what to include in the entry. Student groups will apply the SMARTER Search approach to evaluate annotated bibliographic entries to identify where the student author made mistakes. Follow up with a teacher led class discussion in which students share their findings.

**Research Terminology Review/Application:** Student pairs are prompted to select 5 vocabulary terms from the CED Glossary that they are the least familiar with. The pairs will then conduct a short review and research each term's meaning online. The pairs will collaborate and decide *how or in what ways an understanding of and/or application of the term* may be an important part of someone's (or their particular) research process. They will write 3 to 5 sentences for each explaining their reasoning. Follow up and Review: Teacher led whole group discussion in which pairs write a word on the whiteboard and share their thoughts/reasoning.

**Rubric exploration/application with sample papers:** Students will be shown several selected NCUR articles and will apply selected strands of the rubric to the article. Whole group discussion will follow in which teacher will prompt individual students to share and write his or her rankings on the whiteboard and explain the reasoning behind each. Teacher will lead a whole group discussion to find areas of agreement and debate/resolve areas of disagreement

**Rubric exploration/application with sample videos of oral presentations:** Students will be shown several selected research presentations and will apply selected strands of the rubric to the presentation. Whole group discussion will follow in which teacher will prompt individual students to share and write his or her rankings on the whiteboard and explain the reasoning behind each. Teacher will lead a whole group discussion to find areas of agreement and debate/resolve areas of disagreement on the rankings.

**Speed-dating:** Students will have 2 minutes to explain elements of their research (questions, methods, feasibility, significance, possible obstacles and ways to overcome obstacles). Peers will have 2 minutes to provide feedback based on the focus, scope, value, and feasibility of research. Students will then switch partners. This will help students gain feedback from multiple peers. Students will reflect on this peer activity through PREP entries.

## **Appendix B** (cont.)

**Synthesize Data to Form a New Perspective:** Student groups will read and review three selected research articles on one issue (ex. Vaccines and Possible Correlations to Autism). Students will collaborate to form a perspective/hypothesis based on an evaluation/synthesis of all three studies. The groups will then share their ideas about their new perspective/ hypothesis and explain their reasoning process used to reach this in a teacher led whole group discussion. Groups will also explain why further inquiry/research might be needed.

**Teacher-student Conferences:** The teacher and student will meet to discuss the student's progress through the research process: the development of research question(s), progress of the literature review and identification of gap, research methods, student's findings and the significance of the study. Students will reflect on these conferences through PREP entries.

**Understanding Terms Associated with Research:** Students will read selected research articles and respond to questions addressing the *new understanding or claim, methods used, limitations, implications, need for peer review, and the research process in relation to the product*. A teacher led whole group discussion will follow in which students share their responses and ideas.