

AP Research 2023-2024

Mr. Mathews mathewsc@fultonschools.org

AP Research is the second course offered in the AP Capstone sequence. Students must take AP Seminar as a prerequisite for AP Research, as AP Research builds on the skills developed in AP Seminar. The **five big ideas (QUEST)** introduced in Seminar will carry through as the framework for this course.

What is AP Research?

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 (College Board, 2017).

This course is unique in that you will spend the majority of your time constructing your own learning in collaboration with your peers and teachers. Even more than in AP Seminar, you will get out of this course what you put into it. Take this as an opportunity to explore deeply a topic you are excited and passionate about as you learn the process of research. My goal for each of you is that you leave this course feeling like your ideas about research and knowledge are transformed based on the work that we do together. You will become the expert on a tightly focused area of knowledge and *add new understanding* to the field you have chosen to study, a process researchers find meaningful and rewarding.

Required Materials

- 3-ring binder, at least 1.5" should be sufficient
- Writing instruments - pens, pencils, highlighters, etc.
- School or Personal Computer

I. AP Research Performance Task

Academic Paper

[75% of AP Score] You will conduct research and implement a developed or chosen inquiry methodology to design, plan, and conduct an in-depth study or investigation of an area of your own interest, culminating in a paper of 4,000-5,000 words that includes the following elements:

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

Presentation and Oral Defense

[25% of AP Score]

Develop a 15-20 minute presentation (using appropriate media) and deliver it to the oral defense panel (the panel is comprised of the AP Research Teacher and 2 or 3 others, likely teachers in your chosen subject area, administrators, school board members, etc.). Following your presentation, you will defend your research/artistic processes; use of evidence or discipline-specific information; analysis; evaluation; and conclusions, solutions, or recommendations through oral responses to three or four questions asked by the oral defense panelists. Three of these questions will be chosen from the oral defense question list, which will be provided to you in advance. The presentation AND oral defense questions must be completed within 20 minutes and both components are required to score well, so plan to time the length of your presentation accordingly to allow for three or four questions. The questions and any follow up discussion will be at the discretion of the panel

II. PREP Journal

Due: Dates for entries will be announced throughout the course of the year

Throughout the course, you will document and reflect upon the research process and your communication with your teacher and any outside expert adviser(s) using a process and reflection portfolio (PREP). These items will contribute toward your letter grade in the course.

Work in Progress (WIP) Meetings

Beginning in **week three (3)**, students are required to have weekly meetings (10 to 15 minutes) to discuss their progress. Exceptions to this requirement may be announced in class. Each of these meetings must be documented in the PREP journal by reflecting on **ALL OF** the following prompts, making an effort to address different prompts in depth throughout the year:

- 1) Briefly (3 to 5 sentences) summarize your discussion with the teacher
- 2) List your “next step(s)” you need to accomplish before your next WIP meeting
- 3) Briefly (3 to 5 sentences) summarize what you have accomplished since your previous WIP meeting
- 4) Discuss which, if any, part(s) of your project you’re currently feeling “stuck” on

- 5) Discuss which part(s) of your project you feel is in good shape
- 6) List any resources you're having trouble finding, (i.e., struggling to find a study that discusses some element of your topic, feeling like you need more help understanding a research method you think you'd like to use, etc.), describe the steps you've taken to try to find these resources yourself, then make a plan for who you might approach to help you find those resources (Me, your expert adviser, etc.).

III. Course Objectives

In AP Research, students will select a topic of inquiry and develop a tightly focused research question. Students will understand the process of research is recursive, exploring their topic of inquiry with both breadth and depth, continuing to narrow their research question and expand their body of knowledge pertaining to their area of inquiry over the course of the research process. Students will select a research method grounded in the literature of the discipline pertaining to their inquiry to explore their research question. Students will present their results, product, or findings and interpret their significance, exploring the connections to their original research question. Students will discuss the implications and limitations of the research or creative work. Students will reflect on the research process and discuss possible next steps. Students will provide create a bibliography utilizing the style of their chosen discipline. Students will then present their research to a panel and respond to questions from the panel. (College Board, 2017, p. 57)

Develop and Practice Reasoning Processes

- Situating - being aware of the context of one's own as well as others' perspectives, realizing that individual bias can lead to assumptions;
- Choosing - making intentional and purposeful choices, realizing that choices have both intended and unintended consequences;
- Defending - being able to explain and justify personal choices, logic, line of reasoning, and conclusions; and
- Connecting - seeing intersections within and/or across concepts, disciplines, and cultures.

IV. Inquiry Proposal Form

The inquiry proposal form serves to outline the student's research plan and includes the following elements:

- Problem statement
- Research question
- Topic rationale
- Representative list of sources
- Description of proposed method
- Equipment or resources needed to collect data or information
- Anticipated challenges
- Key definitions
- Expert advisers

The inquiry proposal form will be used to fill out the Institutional Review Board Paperwork. All students must submit an inquiry proposal form. Students who will be working with human subjects must include an Institutional Review Board form as well.

V. AP Capstone Policy on Plagiarism and Falsification 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 (College Board, 2017, p. 60).

VI. Expert Adviser(s)

Students may choose to work with an expert adviser in their chosen field of inquiry during AP Research. If students choose to work with an adviser outside of the faculty of Northview, students, parents, the expert adviser, and the AP Research Teacher must complete the AP Research Expert Adviser Partnership Agreement which describes all expectations for contact between the adviser and the student PRIOR to any work occurring. Students who will be working with an adviser in person should be advised that this person must be fingerprinted and background checked by the district as a volunteer before any in-person (or Skype/Facetime) meetings may occur. Contact via phone, email, and/or Twitter/Facebook must be logged in your PREP journal. The AP Research Teacher (Mr. Mathews) must be copied/tagged on all electronic communication.

Expert advisers represent a resource for teachers and students in a variety of areas (i.e., expertise in specific disciplines, fields, or methods).

Expert advisers

- when asked, should ask questions and provide feedback and guidance to students regarding their choice of research questions/project goals, data- or information-collection methods, and analysis strategies
- may hold individual work-in-progress interviews with students to discuss the progress of their papers or presentations, explore issues and/or discuss topics and perspectives, and question students as necessary
- may provide necessary background for a topic – including suggesting possible resources – so that students are not disadvantaged in their exploration
- may 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)

- may provide general feedback to students about elements of their papers or presentations that need improvement
- may vary in number, according to the needs of the paper or presentation

Expert advisers may not

- generate research questions/project goals for students
- conduct or provide research, articles, or evidence for students
- write, revise, amend, or correct student work
- 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)
- 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)

Expert advisers may be drawn from

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

VII. Evaluation and Grading

As you go through this course, try to start to break yourself of the habit of the high achieving student: asking yourself “what do I need to do to get an A?” It will be challenging. Ask yourself instead, “What do I want to know? How can I engage with this idea in way that I will learn something new? How can this be a transformative experience? How can I become more thoughtful, critical, and reflective in this course?” Scoring well on an exam is a nice extrinsic motivator, but you have the potential to change the shape of knowledge in your field - you can discover something previously unknown. Be adventurous. Hold yourself to high standards because you are capable of greatness, and you will be fine. Do your best, but do it for yourself.

Students will receive grades in the 3 following categories:

- Major Assignments are weighted at 55% of the overall course grade. Such as Completion of Sections of the paper (Introduction or Methods) or presentations of aspects or ideas of their paper.
- Minor Assignments are weighted at 35% of the overall course grade. Such as sections of the PREP journal, teacher check ins, assignments connected to important skills, peer reviews, etc.
- Practice Assignments are weighted at 10% of the overall course grade. Such as class participation, smaller parts of PREP journal, etc.

AP Research, like AP Seminar, is a skills-based class. Though you will spend the year working on them, you cannot be evaluated for a letter grade on any of the components of your Academic Paper or Oral Presentation and Defense, only a completion grade. Other assignments are given to assess your progress with the skills you will need to complete your Academic Paper and Presentation/Defense. Quarter grades will be issued using a points-based system. The majority of classroom assignments will be graded utilizing this four-point rubric, where larger assignments will be issued points on a similar scale (same scale, but out of 8 or 12 points, etc.). **Details will be given on expectations for each assignment.**

Basic AP Research Assignment Rubric

Exemplary (4)	Proficient (3)	Approaching (2)	Does not meet standard (0-1)
<p>Student performs all components at a superior level beyond what is required for proficiency.</p> <p>Student work is characterized by an in-depth understanding of the subject-area content related to the task and demonstrates excellence in essential skills.</p> <p>Exemplary work implies that the student has exceeded expectations and has presented work worthy of emulating and showcasing.</p>	<p>Student performs all components at a consistent level and demonstrates competency.</p> <p>Student work is characterized by a solid understanding of the subject-area content related to the task and demonstrates proficiency in essential skills.</p> <p>Proficient work implies that the student has met expectations of the assignment and its corresponding standards.</p>	<p>Student has met some components, but has not demonstrated proficiency in all components.</p> <p>Student work is characterized by a general understanding of the subject-area content related to the task and demonstrates a basic grasp of essential skills.</p> <p>Approaching implies that the student is working toward meeting assignment expectations and corresponding standards.</p>	<p>Student has not met/demonstrated proficiency in the standards for completion of the assignment.</p> <p>Student work is characterized by insufficient understanding of the subject-area content and demonstrates deficiencies in essential skills.</p> <p>Does not meet standard implies that the student is missing vital components of the assignment and corresponding standards.</p>

Academic Paper and Presentation/Oral Defense rubrics created by the College Board will be utilized to evaluate summative assessments that support the performance tasks.

Assignments

These assignments are designed to support the development of skills required in the Performance Task. Templates/assignment guidelines for most assignments will be distributed electronically through Google Classroom. Assignments may include, but are not limited to:

PREP Rubric

Exemplary (4)	Proficient (3)	Approaching (2)	Does not meet standard (0-1)
Detailed summary of activity concepts with supporting evidence . Reflection describes the personal significance of the activity as related to the student and their research. Reflection describes how student's research will be shaped in the future as a result of the activity.	All required components are included in the reflection. One of the components may not be detailed enough to provide evidence of deep understanding of concepts and reflective thinking process . However, reflective thinking is evident through most of the work.	Missing components . One or more of the components is not detailed enough to provide evidence of deep understanding of concepts and reflective thinking process. Overall reflection is limited .	Missing components . Summary is very general with no supporting evidence . Reflection, if present, is limited and does not provide evidence of deep understanding and thinking related to research. Entire reflection is merely a summary of student activity .

Deadlines/Late Work Policy: County Policy

What happens if a student is present in-class but does not turn in an assignment by the due date?

- A grade of zero will be entered into gradebook until the assignment is submitted.
- Upon submission, teachers will deduct 15% of the assignment grade if the assignment is turned in past the due date. This will be calculated by multiplying the actual grade earned by 0.85. For example, if a student earned an 90% on a project but the project was turned in past the due date, the student would receive a 77% (90×0.85).
- If a student fails to turn in a late or missing assignment by the end of the unit, teachers will enter a zero for the assignment in the gradebook.
- Teachers will deduct 25% of the assignment grade if the assignment is turned in past the end of unit major assessment. This will be calculated by multiplying the actual grade earned by 0.75. For example, if a student earned an 90% on a project but the project was turned in past the end of unit major assessment, the student would receive a 68% (90×0.75).

What happens if a student is present in-class but does not turn in an assignment by the due date?

- A grade of zero will be entered into gradebook until the assignment is submitted
- Upon submission, teachers will deduct 15% of the assignment grade if the assignment is turned in past the due date. This will be calculated by multiplying the actual grade earned by 0.85. For example, if a student earned an 90% on a project but the project was turned in past the due date, the student would receive a 77% (90×0.85).
- If a student fails to turn in a late or missing assignment by the end of the unit, teachers will enter a zero for the assignment in the gradebook.

VIII. Ethical Research Practices

General Principles of Ethical Research

The following is a general summary of the main ethical principles discussed in various codes of ethical research:

- **Honesty** - Strive for honesty in all scientific communications. Honestly report data, results, methods and procedures, and publication status. Do not fabricate, falsify, or misrepresent data. Do not deceive colleagues, research sponsors, or the public.
- **Objectivity** - Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or minimize bias or self-deception. Disclose personal or financial interests that may affect research.
- **Integrity** - Keep your promises and agreements; act with sincerity; strive for consistency of thought and action.
- **Carefulness** - Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.
- **Openness** - Share data, results, ideas, tools, resources. Be open to criticism and new ideas.
- **Respect for Intellectual Property** - Honor patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give proper acknowledgement or credit for all contributions to research. Never plagiarize.
- **Confidentiality** - Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.
- **Responsible Publication** - Publish in order to advance research and scholarship, not to advance just your own career. Avoid wasteful and duplicative publication.
- **Responsible Mentoring** - Help to educate, mentor, and advise students. Promote their welfare and allow them to make their own decisions.
- **Respect for colleagues** - Respect your colleagues and treat them fairly.
- **Social Responsibility** - Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.
- **Non-Discrimination** - Avoid discrimination against colleagues or students on the basis of sex, race, ethnicity, or other factors not related to competence and integrity.
- **Competence** - Maintain and improve your own professional competence and expertise through lifelong education and learning.
- **Legality** - Know and obey relevant laws and institutional and governmental policies.
- **Human Subjects Protection** - When conducting research on human subjects, minimize harms and risks and maximize benefits; respect human dignity, privacy, and autonomy; take special precautions with vulnerable populations; and strive to distribute the benefits and burdens of research fairly.

(List adapted from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/>)

Human Subjects Research

In 1979, the U.S. Department of Health and Human Resources issued the Belmont Report, which summarizes the basic ethical principles identified by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. Students in AP Research will make a thorough investigation of what constitutes ethical research practices generally as well as in their chosen field of study. Students will complete as part of the AP Research Course the National Institutes of Health Office of Extramural Research Protecting Human Research Participants training regardless of whether or not their individual research involves human subjects. This training covers the historical development of ethical research practices involving human subjects and is valuable knowledge for any beginning researcher.

IX. AP Research Unit Plans

Unit 1: Course Foundations

Unit 2: Creating a Research Plan, Examining Methodology

Unit 3: Intro to Data Collection

Unit 4: Contextualize and finalize Inquiry Proposal

Unit 5: Synthesize, Refine Method, Data Collection

Unit 6: Analyze Data, Communicating Results

Unit 7: Write/Edit Academic Paper, Oral Presentation & Defense Prep

Unit 8: Oral Presentation & Defense

Unit 9: What's next?