Pascack Valley Regional High School District

Pascack Hills High School, Montvale, New Jersey
Pascack Valley High School, Hillsdale, New Jersey

Course Name: AP Research

Born On: August, 2024
Revised On: August, 2026
Board Approval: 10/26/26

Brief Summary: This first unit of AP Research is the overlap from AP Seminar where students will have to begin to distill and refine a topic into a question that can be researched in a replicable fashion. To that end, the best transition is for students to read and understand the rubric(s) by applying it to released papers from College Board and their own research. The students are tasked with finding the gap in their topic by exploring other literature related to their intended question; the literature review is important to situate the new question and will informally begin to be constructed alongside the research question. Research questions will be in constant revision as the student approaches the submission of a formal proposal to the Institutional Review Board (IRB). The pedagogical framework for AP Research is QUEST: Questions and Explore, Understand and Analyze, Evaluate Multiple Perspectives, Synthesize Ideas, and Team, Transform, and Transmit. The QUEST process is recursive so students are always able to move fluidly through the framework.

Modifications for Diverse Learners:

*** See appendix for accommodations and modifications for diverse learners.

STAGE 1

Alignment with standards (NJSLS):

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.
- NJSLSA.R4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- NJSLSA.R5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- NJSLSA.R9. Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

- RL.11-12.2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RI.11-12.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
- RI.11-12.2. Determine two or more central ideas of a text, and analyze their development and how they interact to provide a complex analysis; provide an objective summary of the text.
- RI.11-12.3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
- RI.11-12.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
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- RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- RI.11-12.10. By the end of grade 11, read and comprehend literary nonfiction at grade level text-complexity or above with scaffolding as needed. By the end of grade 12, read and comprehend literary nonfiction at grade level text-complexity or above.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

- NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- W.11-12.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

A. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
B. Develop claim(s) and counterclaims avoiding common logical fallacies and using sound reasoning and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
C. Use transitions (e.g. words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
E. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

A. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
B. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
C. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
D. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
E. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
F. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).
- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- SL.11-12.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, qualitatively, orally) evaluating the credibility and accuracy of each source.
- SL.11-12.3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
  CRP9. Model integrity, ethical leadership and effective management.
- CRP10. Plan education and career paths aligned to personal goals.
- CRP11. Use technology to enhance productivity.

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:

- 9.2.12.C.7 Examine the professional, legal, and ethical responsibilities for both employers and employees in the global workplace.
- 9.3.IT-WD.4 Demonstrate the effective use of tools for digital communication production, development and project management.
- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.

Career Education:
Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:
- 8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- 8.1.12.C.1 Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.
- 8.1.12.E.1 Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):
Students will understand that…
- 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.
- 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.
- 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.
- Scholarly works convey perspectives and demonstrate effective reasoning that have been selected for the intended audience, purpose, and situation.
- 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.

Essential Questions:

- Why should we question existing ideas?
- How does an individual come to accept/believe an argument?
- How is an argument evaluated by situating it in conversation with others?
- Why is it important to consider audience and purpose?
- How does an argument's presentation affect its impact?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- 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.
- 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.
- Scholars analyze and evaluate others' studies and artistic works in terms of internal coherence and alignment of the purposes, goals, and methods of inquiry
- 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.
- Some ideas/perspectives are ambiguous or not well defined. The process of identification and interpretation may not lead to a definitive answer.
- 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.
- Scholars apply discipline specific terminology in the analysis of scholarly works.
- Inquiries result in conclusions that can be presented in different formats and that typically have the following elements:
    - Introduction: provides background and contextualizes the research question/project goal, reviews previous work in the field related to the research question/ project goal, and identifies the gap in the current field of knowledge to be addressed
    - Method, process, or approach: explains and provides justification for the chosen method, process, or approach
    - Results, Product, or Findings: presents the results, product, evidence, or findings
    - Discussion, Analysis, and/or Evaluation: interprets the significance of the results, product, or findings; explores connections to original research question/project goal; discusses the implications and limitations of the research or creative work
    - Conclusion and Future Directions: reflects on the process and how this project could impact the field; discusses possible next steps
    - Bibliography: provides a complete list of sources cited and consulted in the appropriate disciplinary style

Students will be able to…

- Articulating the purpose and significance of the scholarly inquiry.
- Developing and revising a focused research question/project goal.
- Evaluating and critiquing others' inquiries, studies, artistic works, and/or perspectives.
- Evaluating the relevance and credibility of evidence used to support an argument, taking context into consideration.
- Identifying, comparing, and interpreting multiple perspectives on or arguments about an issue.
- Selecting and consistently applying an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.
- 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.
- Planning and producing a cohesive academic paper, considering audience, context, and purpose.

STAGE 2

Assessments (please note College Board determines how active a role the teacher can take in student work in order to keep the process original and authentic):

- **Rubric review and evaluation of papers**: Students will review College Board released papers and evaluate how they would grade them based on the Research Academic Paper (RAP) rubric. Student review will then be compared to College Board released grading notes for accuracy of student review. Students should identify different levels of achievement based on paper review.
- **Annotated Bibliographies:** As students begin to develop and refine a research question, they will conduct a literature review of their topic of inquiry in order to both situate their topic and find their research gap. Students will create the bibliography in the style of their discipline (APA, MLA, AMA, etc) and include in the annotation the summary, credibility, relevance to the student's intended research, direct quotes, and whether or not the student believes this will be used in the RAP and why/why not. These will be submitted for peer review.
- **Research Question (RQ) with Peer Review:** Students, once they have focused their topic of inquiry and narrowed a research gap, will write their research question from a problem statement. Peers will review the research question using six effective criteria for a research question. Further revision of the RQ may be necessary during the recursive QUEST process.
- **Inquiry Proposal to the Institutional Review Board (IRB):** As best practice, this should be submitted by November 15 so that the IRB has time to review and approve or suggest revisions for ethics and potential risks. The proposal will be peer reviewed before submission to ensure accurate and clear syntax and diction as well as purpose.
- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community, directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing

specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.

- 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.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **Puzzle Analogy:** Students will put together puzzles with two side-by-side missing pieces as well as pieces that don't belong to their puzzle. This will physically represent their research gap and the gap of the next researcher that will build on the student's research. The larger puzzle represents the topic and the pieces represent research and literature that is in conversation with one another, which situates the student's work. There will be wrong puzzle pieces so students may also understand that not every piece of literature or research may fit into their topic even if it seems that way at first glance.

- **Paper Review:** Students will look at a range of papers released by College Board. The range will include both topic (scientific, cultural, film, etc) and grade (1-5). Students will find each element of the rubric in the papers and note the student's success before a whole class discussion of College Board notes and grade.
- **Poster Project:** As the student works on his/her RQ and RAP, s/he will fill in a giant Post-It note with the following: proposed topic, problem statement, RQ, what to define for audience, assumptions/hypotheses, method, sources. This will be updated every other week. Students will post questions on each other's posters using color assigned Post-Its as a way of informal peer review.
- **Six Criteria for RQ and Problem Statements:** Students will review the six criteria for effective RQs by reviewing effective RQs and if they hit the criteria from sample papers. Students will then write their own problem statements for their perceived topic of inquiry, then turn it into an RQ which they and peers will test against the six criteria. This evaluation is mandatory in the PReP.
- **SMARTER annotated bibs and plagiarism review:** Students will have to situate their proposal in a gap after engaging in literature review. While working on lit review, students will use the SMARTER method to reflect on how they can improve on their background research and determine the appropriate style they will use for their own in-text citations. Students will also review four examples of "citations" and determine if they are fabricated or plagiarized according to the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information. They will sign a copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information. These are mandatory PReP entries.
- **Inquiry Proposal with Peer Review and IRB submission:** The culmination of this unit is the submission of the inquiry proposal, which can only occur after peer and self-review. All documents necessary for submission to IRB will also be included in PReP. In this part of the course, students will be developing the method of their research and its ethical implications. In order for the research to be approved, it must be critically reviewed for limitations, assumptions, and its ethical boundaries for both physical and psychological safety of the researcher and subject(s).

Resources:

- Poster size Post-Its and markers
- Individual colored post-its and pens for peer review
- Laptops
- Access to databases
- SmartBoard and whiteboard

Interdisciplinary Connections:

The nature of the course is an individualized study into a topic of choice by each student, so the possibilities for interdisciplinary connections is tremendous. An example of a science research paper may include the following from math and science:

- HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.
- HSS-IC.B.6 Evaluate reports based on data.

Brief Summary: In this unit, students will conduct their research study and align their research to their purpose as they continue to work on their Research Academic Paper (RAP). It is expected that the study be completed before Christmas break, if possible, so that January can be devoted to writing the "Methods" portion of their RAP, where they focus on reasonable replication and alignment to purpose. This unit is a departure from the crossover to AP Seminar, so students will be working almost entirely alone on their research except for peer review of RAP components and annotated bibs. Any expert advisors students have found will have monitored communication to ensure professional ethics.

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- RL.11-12.1. Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
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- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
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B. Develop claim(s) and counterclaims avoiding common logical fallacies and using sound reasoning and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
C. Use transitions (e.g. words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
E. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

A. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
B. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
C. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
D. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
E. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
F. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).
- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- NJSLSA.SL6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
- SL.11-12.1. Initiate and participate effectively in a range of collaborative discussions (one-on- one, in groups, and teacher-led) with peers on *grades 11–12 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively.

A. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well reasoned exchange of ideas.
B. Collaborate with peers to promote civil, democratic discussions and decision-making, set clear goals and assessments (e.g. student developed rubrics), and establish individual roles as needed.

C. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
D. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

- SL.11-12.2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
- SL.11-12.3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.

- L.11-12.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies.

A. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
B. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*).
C. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.
D. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:

- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.
- 9.3.12.ED.2 Demonstrate effective oral, written and multimedia communication in multiple formats and contexts
- 9.3.12.ED-TT.5 Establish a positive climate to promote learning.

Career Education:

Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship

opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:

- 8.1.12.E.1 Produce a position statement about a real-world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.
- 8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- 8.1.12.D.1 Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):

Students will understand that…

- There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry
- 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
- 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.
- Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.
- Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.

Essential Questions:

- How does my project goal shape the research or inquiry I engage in to achieve it?
- What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?
- What is the most appropriate way to acknowledge and attribute the work of others that was used to support my own argument? How do I ensure the conclusions I present are my own?
- How do I provide feedback that is valuable to others? How do I act upon feedback I have received?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal.
- 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.
- The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.
- When evaluating multiple perspectives or arguments, consideration must be given to how one's own personal biases and assumptions can influence one's judgment.
- Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.
- Accurate and ethical attribution enhances one's credibility.
- 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.
- Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation.

Students will be able to…

- Design, plan, and implement a scholarly inquiry.
- Demonstrate perseverance through setting goals, managing time, and working independently on a long-term project.
- Summarize and explain a text's main idea or aim while avoiding faulty generalizations and oversimplification.
- Evaluate objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.
- Attribute knowledge and ideas accurately and ethically, using an appropriate citation style.
- Provide insightful and cogent commentary that links evidence with claims.
- Defend inquiry choices and final product with clarity, consistency, and conviction.
- Reflect on and revise their own writing, thinking, and creative processes.

STAGE 2

Assessments (please note College Board determines how active a role the teacher can take in student work in order to keep the process original and authentic):

- **Annotated Bibliographies:** As students begin conduct research, they will conduct a literature review of their topic of inquiry in order to both situate their topic and find their research gap, and at this stage, see how the student research is mimicking others' research and/or citation style. Students will also place their assumed outcome in conversation with the other literature. Literature from units 1 and 2 will most likely be culled for inclusion in their literary review of RAP. Students will create the bibliography in the style of their discipline (APA, MLA, AMA, etc) and include in the annotation the summary, credibility, relevance to the student's intended research, direct quotes, and

whether or not the student believes this will be used in the RAP and why/why not. These will be submitted for peer review. Five will appear in the PReP.

- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community, directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.
- **Rubric review and evaluation of papers**: Students will review drafts of peers' papers with the College Board rubric and provide critical feedback of areas of alignment with the rubric and at least three revision suggestions which must be constructive. They will submit at least one peer review and one self-reflection to PReP.
- **Inquiry Method Design Organizer:** Students will submit their method to a peer for review. As outlined in the inquiry proposal, it should include detailed step by step directions. Peers will then take sample surveys, attempt to replicate part of the method, and/or engage with positive and critical feedback. As the student solidifies each step of the method, s/he should provide subsequent alignment in at least two sentences. As each step is completed, a reflection on its ease, replication, and alignment to purpose should be recorded. This is a mandatory submission to PReP.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.
- 2000-2500 word RAP with bibliography draft due by mid-terms to be submitted for peer and self-review. This is a mandatory contribution for PReP.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **Annotated bibs of methods and discipline style:** While the students work with the SMARTER method as outlined in unit 1, they must also consider how their literature is related to what their RAP will be. Students will write their RAP in the style most consistent with other literature situated in their topic of inquiry's subject. S/he will also identify components of his/her RAP in the literature focusing on method: research

question, variables, limitations within the studies, differentiation of purpose based on the variety of methods.

- **Poster Project:** As the student works on his/her method and RAP, s/he will fill in a giant Post-It note with the following: proposed topic, problem statement, RQ, what to define for audience, assumptions/hypotheses, method, sources. This will be updated every other week. These updates will also be presented every other week to start preparing for their presentations and oral defense. Students will post questions on each other's posters using color assigned Post-Its as a way of informal peer review.
- **Conducting the Study:** Students will conduct the study they outlined in their inquiry proposal with IRB approval. As they conduct the study, all paperwork, data, etc. associated with their study will be submitted to their PReP.
- **Can you name the method?:** Students, after completing their study and aligning each research step to the purpose, will see if they can name their method based on a teacher provided chart. Students will go back to released College Board papers and decide, if no method is noted, what the method is and/or defend the choice of the named method.
- **Reverse Outline:** In order to ensure the RAP is in logical order, the student should do a reverse outline. They will create the skeleton of their paper in outline form to see if its order needs revision due to illogical line of reasoning and/or alignment to method. Students must submit at least one to their PReP.
- **Expert Adviser Engagement:** At any point in the RAP process, a student may reach out to a field expert to obtain guidance and feedback on the RQ, study purpose, interpretation of findings, or extended piece of scholarly work. This communication will be monitored by the teacher via CCs on emails, video chat, and/or being shared in documents, and initial contact will be approved and signed off on by parents and administration. These communications will be recorded thorough notes or print outs in the PReP.
- **Assumptions, Hypotheses, and Definitions:** Students should be aware prior to, during, and after data collection of the importance and dangers of assumptions and hypothesis as well as the importance of the variable definitions of words as related to the context of the RAP and general connotation. Students will complete worksheets in discussion regarding the truth of a "story" presented to them which is followed with statements linked to assumptions, hypothesis, and definitions. They will submit this to PReP and complete a diary entry on words they must define, assumptions they have made in error, and hypotheses of their study outcomes.

Resources:

- Poster size Post-Its and markers
- Individual colored post-its and pens for peer review
- Laptops
- Access to databases
- SmartBoard and whiteboard
- Appropriate supplies relative to each student's topic of inquiry and proposed research study; this varies by student and year

Interdisciplinary Connections:

The nature of the course is an individualized study into a topic of choice by each student, so the possibilities for interdisciplinary connections is tremendous. An example of an intersectional critique of a work of art and/or artist(s) is as follows:

- 1.4.12.B.3 Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world.
- 1.4.12.B.2 Evaluate how an artist's technical proficiency may affect the creation or presentation of a work of art, as well as how the context in which a work is performed or shown may impact perceptions of its significance/meaning.

Unit: Method and Alignment to Purpose
Time Frame: 8-12 weeks (mid-November to mid-terms in late January)

Brief Summary: In this unit, students will conduct their research study and align their research to their purpose as they continue to work on their Research Academic Paper (RAP). It is expected that the study be completed before Christmas break, if possible, so that January can be devoted to writing the "Methods" portion of their RAP, where they focus on reasonable replication and alignment to purpose. This unit is a departure from the crossover to AP Seminar, so students will be working almost entirely alone on their research except for peer review of RAP components and annotated bibs. Any expert advisors students have found will have monitored communication to ensure professional ethics.

Modifications for Diverse Learners:

*** See appendix for accommodations and modifications for diverse learners.

STAGE 1

Alignment with standards (NJSLS):

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- NJSLSA.R4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- NJSLSA.R5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- NJSLSA.R9. Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.
- RL.11-12.1. Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

- RL.11-12.2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RI.11-12.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
- RI.11-12.2. Determine two or more central ideas of a text, and analyze their development and how they interact to provide a complex analysis; provide an objective summary of the text.
- RI.11-12.3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
- RI.11-12.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
- RI.11-12.6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
- RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- RI.11-12.10. By the end of grade 11, read and comprehend literary nonfiction at grade level text-complexity or above with scaffolding as needed. By the end of grade 12, read and comprehend literary nonfiction at grade level text-complexity or above.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

- NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- W.11-12.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

A. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
B. Develop claim(s) and counterclaims avoiding common logical fallacies and using sound reasoning and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
C. Use transitions (e.g. words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
E. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

A. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
B. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
C. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
D. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
E. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
F. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).
- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- NJSLSA.SL6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
- SL.11-12.1. Initiate and participate effectively in a range of collaborative discussions (one-on- one, in groups, and teacher-led) with peers on *grades 11–12 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively.

A. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well reasoned exchange of ideas.
B. Collaborate with peers to promote civil, democratic discussions and decision-making, set clear goals and assessments (e.g. student developed rubrics), and establish individual roles as needed.
C. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.

D. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

- SL.11-12.2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
- SL.11-12.3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.
- L.11-12.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies.

A. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
B. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*).
C. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.
D. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:
- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:
- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.
- 9.3.12.ED.2 Demonstrate effective oral, written and multimedia communication in multiple formats and contexts
- 9.3.12.ED-TT.5 Establish a positive climate to promote learning.

Career Education:
Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:

- 8.1.12.E.1 Produce a position statement about a real-world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.
- 8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- 8.1.12.D.1 Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):

Students will understand that…

- There are multiple ways to investigate questions, problems, and issues. Methods should be aligned with the purpose of the inquiry
- 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
- 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.
- Responsible participation in the scholarly community requires acknowledging and respecting the prior findings and contributions of others.
- Reflection increases learning, self-awareness, and personal growth through identification and evaluation of personal conclusions and their implications.

Essential Questions:

- How does my project goal shape the research or inquiry I engage in to achieve it?
- What is the main idea of the argument or artistic work and what reasoning does the author use to develop it?
- How can I connect the multiple arguments? What other issues, questions, or topics do they relate to?
- What is the most appropriate way to acknowledge and attribute the work of others that was used to support my own argument? How do I ensure the conclusions I present are my own?
- How do I provide feedback that is valuable to others? How do I act upon feedback I have received?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- Methods for data collection, analysis, innovation, and/or interpretation should be aligned with the research question/project goal.

- 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.
- The main idea of an argument is often expressed in the thesis statement, claim, or conclusion, or implied throughout a work.
- When evaluating multiple perspectives or arguments, consideration must be given to how one's own personal biases and assumptions can influence one's judgment.
- Scholars need to articulate their choices, even when those choices deliberately or inadvertently result in ambiguity or lack of clarity.
- Accurate and ethical attribution enhances one's credibility.
- 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.
- Scholars are mindful of the rationale behind the chosen method for data collection, information gathering, analysis, production, and presentation.

Students will be able to…

- Design, plan, and implement a scholarly inquiry.
- Demonstrate perseverance through setting goals, managing time, and working independently on a long-term project.
- Summarize and explain a text's main idea or aim while avoiding faulty generalizations and oversimplification.
- Evaluate objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.
- Attribute knowledge and ideas accurately and ethically, using an appropriate citation style.
- Provide insightful and cogent commentary that links evidence with claims.
- Defend inquiry choices and final product with clarity, consistency, and conviction.
- Reflect on and revise their own writing, thinking, and creative processes.

STAGE 2

Assessments (please note College Board determines how active a role the teacher can take in student work in order to keep the process original and authentic):

- **Annotated Bibliographies:** As students begin conduct research, they will conduct a literature review of their topic of inquiry in order to both situate their topic and find their research gap, and at this stage, see how the student research is mimicking others' research and/or citation style. Students will also place their assumed outcome in conversation with the other literature. Literature from units 1 and 2 will most likely be culled for inclusion in their literary review of RAP. Students will create the bibliography in the style of their discipline (APA, MLA, AMA, etc) and include in the annotation the summary, credibility, relevance to the student's intended research, direct quotes, and whether or not the student believes this will be used in the RAP and why/why not. These will be submitted for peer review. Five will appear in the PReP.
- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community,

directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.

- **Rubric review and evaluation of papers**: Students will review drafts of peers' papers with the College Board rubric and provide critical feedback of areas of alignment with the rubric and at least three revision suggestions which must be constructive. They will submit at least one peer review and one self-reflection to PReP.
- **Inquiry Method Design Organizer:** Students will submit their method to a peer for review. As outlined in the inquiry proposal, it should include detailed step by step directions. Peers will then take sample surveys, attempt to replicate part of the method, and/or engage with positive and critical feedback. As the student solidifies each step of the method, s/he should provide subsequent alignment in at least two sentences. As each step is completed, a reflection on its ease, replication, and alignment to purpose should be recorded. This is a mandatory submission to PReP.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.
- 2000-2500 word RAP with bibliography draft due by mid-terms to be submitted for peer and self-review. This is a mandatory contribution for PReP.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **Annotated bibs of methods and discipline style:** While the students work with the SMARTER method as outlined in unit 1, they must also consider how their literature is related to what their RAP will be. Students will write their RAP in the style most consistent with other literature situated in their topic of inquiry's subject. S/he will also identify components of his/her RAP in the literature focusing on method: research question, variables, limitations within the studies, differentiation of purpose based on the variety of methods.
- **Poster Project:** As the student works on his/her method and RAP, s/he will fill in a giant Post-It note with the following: proposed topic, problem statement, RQ, what to define

for audience, assumptions/hypotheses, method, sources. This will be updated every other week. These updates will also be presented every other week to start preparing for their presentations and oral defense. Students will post questions on each other's posters using color assigned Post-Its as a way of informal peer review.

- **Conducting the Study:** Students will conduct the study they outlined in their inquiry proposal with IRB approval. As they conduct the study, all paperwork, data, etc. associated with their study will be submitted to their PReP.
- **Can you name the method?:** Students, after completing their study and aligning each research step to the purpose, will see if they can name their method based on a teacher provided chart. Students will go back to released College Board papers and decide, if no method is noted, what the method is and/or defend the choice of the named method.
- **Reverse Outline:** In order to ensure the RAP is in logical order, the student should do a reverse outline. They will create the skeleton of their paper in outline form to see if its order needs revision due to illogical line of reasoning and/or alignment to method. Students must submit at least one to their PReP.
- **Expert Adviser Engagement:** At any point in the RAP process, a student may reach out to a field expert to obtain guidance and feedback on the RQ, study purpose, interpretation of findings, or extended piece of scholarly work. This communication will be monitored by the teacher via CCs on emails, video chat, and/or being shared in documents, and initial contact will be approved and signed off on by parents and administration. These communications will be recorded thorough notes or print outs in the PReP.
- **Assumptions, Hypotheses, and Definitions:** Students should be aware prior to, during, and after data collection of the importance and dangers of assumptions and hypothesis as well as the importance of the variable definitions of words as related to the context of the RAP and general connotation. Students will complete worksheets in discussion regarding the truth of a "story" presented to them which is followed with statements linked to assumptions, hypothesis, and definitions. They will submit this to PReP and complete a diary entry on words they must define, assumptions they have made in error, and hypotheses of their study outcomes.

Resources:

- Poster size Post-Its and markers
- Individual colored post-its and pens for peer review
- Laptops
- Access to databases
- SmartBoard and whiteboard
- Appropriate supplies relative to each student's topic of inquiry and proposed research study; this varies by student and year

Interdisciplinary Connections:

The nature of the course is an individualized study into a topic of choice by each student, so the possibilities for interdisciplinary connections is tremendous. An example of an intersectional critique of a work of art and/or artist(s) is as follows:

- 1.4.12.B.3 Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world.
- 1.4.12.B.2 Evaluate how an artist's technical proficiency may affect the creation or presentation of a work of art, as well as how the context in which a work is performed or shown may impact perceptions of its significance/meaning.

Unit: Analysis and Conclusion
Time Frame: 12 weeks (February-April)

Brief Summary: This unit builds on the Research Academic Paper (RAP) in that it finishes what the research study will report as its product and the analyze those findings. The implications of the findings as well as the limitations to the research are extremely relevant as they can reflect on the process and provide the next steps as the next researcher works on the topic of inquiry. This unit will close the paper portion of the performance task, but it will overlap with the creation of the presentation and oral defense. The puzzle pieces in the analogy from the first unit are clear here: the student explores connections to original research question (RQ), the other literature relevant to his/her RQ, and discusses what the next steps may be. Ideally, this unit will be completed by March 30. At the completion, students will submit to the RAP to the College Board for scoring no later than the deadline of April 30.

Modifications for Diverse Learners:

*** See appendix for accommodations and modifications for diverse learners.

STAGE 1

Alignment with standards (NJSLS):

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.
- NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- RL.11-12.9. Demonstrate knowledge of and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) eighteenth-, nineteenth- and early twentieth-century foundational works of literature, including how two or more texts from the same period treat similar themes or topics.
- RI.11-12.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
- RI.11-12.2. Determine two or more central ideas of a text, and analyze their development and how they interact to provide a complex analysis; provide an objective summary of the text.

- RI.11-12.3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
- RI.11-12.6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
- RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- RI.11-12.9. Analyze and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) documents of historical and literary significance for their themes, purposes and rhetorical features, including primary source documents relevant to U.S. and/or global history.
- RI.11-12.10. By the end of grade 11, read and comprehend literary nonfiction at grade level text-complexity or above with scaffolding as needed. By the end of grade 12, read and comprehend literary nonfiction at grade level text-complexity or above.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- W.11-12.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

A. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
B. Develop claim(s) and counterclaims avoiding common logical fallacies and using sound reasoning and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.

C. Use transitions (e.g. words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
E. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

A. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
B. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
C. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
D. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
E. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
F. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text

selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).

- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- SL.11-12.1. Initiate and participate effectively in a range of collaborative discussions (one-on- one, in groups, and teacher-led) with peers on *grades 11–12 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively.

A. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well reasoned exchange of ideas.
B. Collaborate with peers to promote civil, democratic discussions and decision-making, set clear goals and assessments (e.g. student developed rubrics), and establish individual roles as needed.
C. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
D. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. SL.11-12.2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

- SL.11-12.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, qualitatively, orally) evaluating the credibility and accuracy of each source.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
- NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:

- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.
- 9.3.12.ED.2 Demonstrate effective oral, written and multimedia communication in multiple formats and contexts.
- 9.3.12.ED-TT.5 Establish a positive climate to promote learning.

Career Education:

Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:

- 8.1.12.A.1 Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
- 8.1.12.C.1 Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.
- 8.1.12.E.1 Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):

Students will understand that…

- 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.
- Arguments have implications and consequences.
- 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.
- Forming one's own perspective and reaching new understandings involve innovative thinking and synthesis of existing knowledge with personally generated evidence.
- 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.

Essential Questions:

- What questions have yet to be asked?
- Does this argument acknowledge other perspectives?
- What patterns or trends can be identified among the arguments about this issue?
- How do I connect and analyze the evidence in order to develop an argument and support a conclusion?
- Which revision strategies are most appropriate to developing and refining my project at different stages?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- A research question/ project goal often requires multiple revisions to ensure it is appropriate in terms of scope and feasibility (time, resources).
- Scholars analyze data or information in a variety of ways appropriate to the inquiry.
- Arguments are significant and have real-world impact because they can influence behavior (e.g., call one to action, suggest logical next steps).
- Conclusions are contextual and their validity must be affirmed, qualified, or refuted.
- Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic
- Disciplines may be broadly or narrowly defined. Disciplines can intersect or be combined to provide new understandings or perspectives.
- Innovative solutions and arguments identify and challenge assumptions, acknowledge the importance of content, imagine and explore alternatives, and engage in reflective skepticism.
- Peer review is an effective way for scholars to strengthen their critical eye as well as strengthen their own work.

Students will be able to…

- Demonstrate perseverance through setting goals, managing time, and working independently on a long-term project.
- Employ ethical research practices.
- Connect an argument to broader issues by examining the implications of the author's claim.
- Evaluate potential resolutions, conclusions, or solutions to problems or issues raised by an argument.
- Evaluate objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.
- Extend an idea, question, process, or product to innovate or create new understandings.
- Offer resolutions, conclusions, and/or solutions based on evidence considering limitations and implications.
- Engage in peer review to provide constructive responses to one another's work, appropriate to the stage of a project's development.

STAGE 2

Assessments (please note College Board determines how active a role the teacher can take in student work in order to keep the process original and authentic):

- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community, directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.
- **Rubric review and evaluation of papers**: Students will review drafts of peers' papers with the College Board rubric and provide critical feedback of areas of alignment with the rubric and at least three revision suggestions which must be constructive. They will submit at least one peer review and one self-reflection to PReP.
- **Flow Chart:** Students will complement their poster project with a flow chart that will highlight the connections between the RQ and information collected. They will then rank the importance and significance of the findings to the purpose of the study. Peers will then independently follow the flow chart without their peer's input to see if it is logical.
- **Work in Progress Interview:** The student will meet with the teacher every other week to show ability to meet deadlines, record revisions, and outline what needs to be done with a hard deadline for each task.
- **Placing Your Piece in the Puzzle:** Students will refer back to the analogy from the first day to reflect on if they have shown, in their RAP, where their puzzle piece belongs, to what other pieces it is in conversation with, and how this piece extends a new understanding. They should also peer and self-review if they have explained clearly the implications of their conclusion and the limitations of the conclusion.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **Poster Project:** As the student works on his/her analysis, conclusion, and RAP, s/he will fill in a giant Post-It note with the following: proposed topic, problem statement, RQ, what to define for audience, assumptions/hypotheses, method, sources. This will be updated every other week. These updates will also be presented every other week to start preparing for their presentations and oral defense. Students will post questions on each other's posters using color assigned Post-Its as a way of informal peer review.
- **Reverse Outline:** In order to ensure the RAP is in logical order, the student should do a reverse outline. They will create the skeleton of their paper in outline form to see if its order needs revision due to illogical line of reasoning and/or alignment to method, illogical situation in literature review, unclear conclusion, and future work. Students must submit at least one to their PReP.
- **Expert Adviser Engagement:** At any point in the RAP process, a student may reach out to a field expert to obtain guidance and feedback on the RQ, study purpose, interpretation of findings, or extended piece of scholarly work. This communication will be monitored by the teacher via CCs on emails, video chat, and/or being shared in documents, and initial contact will be approved and signed off on by parents and administration. These communications will be recorded thorough notes or print outs in the PReP.
- **Image Creation, Use, and Importance:** Students will work together and independently to review and create images, data tables, figures, and charts that may be included or excluded from their RAP. This is similar to an annotated bib, except it is strictly for images. If self-created, no citation is necessary. Students will also record how the image is related to their purpose, how it fits into their purpose, and whether or not it leads to a greater understanding of the RAP or detracts from it. Sample papers released by College Board will be used as reference.

Resources:

- Poster size Post-Its and markers
- Individual colored post-its and pens for peer review
- Laptops and printer
- Access to databases
- SmartBoard and whiteboard
- Appropriate supplies relative to each student's topic of inquiry and proposed research study; this varies by student and year

Interdisciplinary Connections:

The nature of the course is an individualized study into a topic of choice by each student, so the possibilities for interdisciplinary connections is tremendous. An example of a technology paper about the impact of smartphone recycling or lack thereof may include the following:

- 8.2.12.B.1 Research and analyze the impact of the design constraints (specifications and limits) for a product or technology driven by a cultural, social, economic or political need and publish for review.
- 8.2.12.B.2 Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation and maintenance of a chosen product.

Unit: Presentations and Oral Defense
Time Frame: 10 weeks (March-April)

Brief Summary: This unit encompasses all of the Presentation and Oral Defense (POD) task, which is based on the student's Research Academic Paper (RAP). This task must be completed by the April 30 deadline established by College Board. Students must use their time wisely as this unit overlaps the end unit of the RAP. The student must be able to create and practice a POD of no more than 20 minutes to be scored by a trained and approved by College Board teacher or staff member. The College Board rubric and list of sample OD questions will be the most used reference for the student during the process. The POD must not only be informative but engaging for the audience; therefore, practice with peer review is essential not only for rubric requirements, but for familiarization with performance technology and time restrictions. As the class has already completed two presentations in AP Seminar, there is not much direct instruction on how to present and respond to ODs; the focus is more on alignment to the College Board rubric for AP Research POD.

Modifications for Diverse Learners:

*** See appendix for accommodations and modifications for diverse learners.

STAGE 1

Alignment with standards (NJSLS):

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- NJSLSA.R9. Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.
- RI.11-12.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
- RI.11-12.3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.

- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
- RI.11-12.6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
- RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- W.11-12.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

A. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
B. Develop claim(s) and counterclaims avoiding common logical fallacies and using sound reasoning and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
C. Use transitions (e.g. words, phrases, clauses) to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
E. Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).

- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).
- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- NJSLSA.SL6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
- SL.11-12.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, qualitatively, orally) evaluating the credibility and accuracy of each source.
- SL.11-12.3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP11. Use technology to enhance productivity.

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:

- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.
- 9.3.12.AR-JB.3 Plan and deliver a media production (e.g., broadcast, video, Internet and mobile).

- 9.3.12.ED.2 Demonstrate effective oral, written and multimedia communication in multiple formats and contexts.
- 9.3.12.ED-TT.5 Establish a positive climate to promote learning.

Career Education:
Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:
- 8.1.12.A.2 Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
- 8.1.12.D.1 Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
- 8.1.12.E.1 Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):

Students will understand that…
- The relevance and credibility of the source of information is determined by the context of its use.
- 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.
- 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.
- Arguments, choices, and solutions present intended and unintended opportunities and consequences.
- 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.

Essential Questions:
- What information/evidence do I need to answer my research question?

- How can I assess the quality or strength of my and others' research, products, or artistic works?
- From whose perspective is this information being presented and how does that affect others' evaluation?
- Are there other conclusions I should consider?
- How might my communication choices affect my credibility with my audience?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- 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.
- Inquiry allows for the discovery of connections that can increase curiosity or understanding and lead to further questions.
- Authors use reasons to support their arguments. The line of reasoning is composed of one or more claims justified through evidence.
- 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.
- Critical thinkers are aware that some arguments may appeal to emotions, core values, personal biases and assumptions, and logic.
- When making choices and proposing solutions, the advantages and disadvantages of the options should be weighed against the goal within its context.
- 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.
- Scholars engage thoughtfully with their audiences' critiques and questions.

Students will be able to…

- Articulate the purpose and significance of the scholarly inquiry.
- Evaluate the relevance and credibility of the source of information and data in relation to the inquiry.
- Explain and analyze the logic and line of reasoning of an argument.
- Evaluate the relevance and credibility of evidence used to support an argument, taking context into consideration.
- Evaluate objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.
- Select and consistently apply an appropriate disciplinary or interdisciplinary approach to form a scholarly argument or aesthetic rationale.
- Engage an audience by employing effective techniques of delivery or performance.
- Defend inquiry choices and final product with clarity, consistency, and conviction.

STAGE 2

Assessments (please note College Board determines how active a role the teacher can take in student work in order to keep the process original and authentic):

- **Rubric review and evaluation of CB PODs**: Students will review College Board released PODs and evaluate how they would grade them based on the POD rubric. Student review will then be compared to College Board released grading notes for accuracy of student review. Students should identify different levels of achievement based on POD review.
- **Rubric review and evaluation of peer PODs**: Students will review drafts of peers' PODs with the College Board rubric and provide critical feedback with the rubric and at least three suggestions which must be constructive. They will submit at least one peer review and one self-reflection to PReP.
- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community, directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.
- **Work in Progress Interview:** The student will meet with the teacher every week to show ability to meet deadlines, record revisions, and outline what needs to be done with a hard deadline for each task.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **POD Review:** Students will look at a range of PODs released by College Board. The range will include both topic (scientific, cultural, film, etc) and grade (1-5). Students will find each element of the rubric in the PODs and note the student's success before a whole class discussion of College Board notes and grade.
- **PReP journals:** Students will respond to specific questions about rubric rows and assess their alignment with the rows by providing evidence from their presentation. S/he will

also submit three questions that they feel they may struggle with for each of the three OD sections and why.

- **Teacher Modeling:** The teacher will give two presentations and submit to OD questions. The presentations will model excellent and poor presentation technique as well as good and poor OD responses. Students will choose the ODs for the teacher presentation(s). Students will provide feedback for the poor POD to practice giving peer feedback. Students will identify strong POD elements in the excellent POD. Studetnts will reflect in their PRePs what they believe will be their biggest challenge and develop tactics to overcome the challenge.
- **OD review**: Students will review each and every OD in a jigsaw. Three groups will review each OD in their assigned sub-topic and then present to the class a breakdown of what the question(s) ask and examples of good and poor responses and why according to the OD rows of the rubric.
- **Videotaped POD practice**: Students will sign up for at least 2 practice presentations with the class and review critical feedback based on self-review of video and peers' review based on rubric. This will be done during activity period so that the general school population can attend to ensure the student is familiar with a changing or strange audience.

Resources:

- Laptops and printer with PowerPoint or Google Slides
- SmartBoard and whiteboard
- Clicker to advance slides
- iPad to record POD

Interdisciplinary Connections:

Because students are creating his/her own research study, s/he may use simple or more complex statistical observations such as those found in the S-IC math standards:

B. Make inferences and justify conclusions from sample surveys, experiments, and observational studies

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.

5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.

6. Evaluate reports based on data.

Unit: Research in "Reality"
Time Frame: 8 weeks (May-June)

Brief Summary: This unit is designed to attract younger students to the AP Capstone program, extend student learning into real world by engaging more with the community, and possibly serve as a vehicle for college networking through scholarships and publication. The students, at this point, should be eminently proud of their two years of work and this unit will showcase that at the level to which the student is comfortable. It will use the skills of presentation and effective arguments in conveying the student worth and AP Capstone benefits to people outside of the program.

Modifications for Diverse Learners:

*** See appendix for accommodations and modifications for diverse learners.

STAGE 1

Alignment with standards (NJSLS):

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.R4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- NJSLSA.R6. Assess how point of view or purpose shapes the content and style of a text.
- NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- NJSLSA.R8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- RL.11-12.1. Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.6. Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
- RI.11-12.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.
- RI.11-12.5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
- RI.11-12.6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.

- RI.11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- NJSLSA.W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- W.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
- W.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.6. Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- W.11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).

- W.11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- NJSLSA.SL3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
- NJSLSA.SL6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
- SL.11-12.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, qualitatively, orally) evaluating the credibility and accuracy of each source.
- SL.11-12.3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
- NJSLSA.L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
- L.11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

- L.11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

A. Observe hyphenation conventions.
B. Spell correctly.

- L.11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

A. Vary syntax for effect, apply an understanding of syntax to the study of complex texts.

- L.11-12.6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Career Ready Practices:

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP9. Model integrity, ethical leadership and effective management.
- CRP10. Plan education and career paths aligned to personal goals.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

Integrated 21st Century Skills through New Jersey Student Learning Standard 9:

- 9.2.12.C.3 Identify transferable career skills and design alternate career plans.
- 9.3.12.ED.2 Demonstrate effective oral, written and multimedia communication in multiple formats and contexts.
- 9.3.12.ED-TT.5 Establish a positive climate to promote learning.

Career Education:

Throughout the course, students learn about the career options available to them. Students are able to continue their studies through electives and AP Courses. Students have the opportunity to listen to guest speakers and attend field trips that provide real-world experience. Students are also encouraged to explore career opportunities using Naviance, an online tool which helps connect learning to various careers. Additionally, students can participate in the Structured Learning Experience, where they can gain real-world skills through a variety of internship opportunities. Because the students in this course choose a research topic, it is assumed that it is of importance to them and may influence their career choices. Students are also suggested by the teacher to find an expert in their field of study to help guide them and mentor them.

Integrated Technology through New Jersey Student Learning Standard 8:

- 8.1.12.A.1 Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.

- 8.1.12.A.2 Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.

Enduring understandings (adapted from College Board's *AP Research Course and Exam Description*):

Students will understand that…

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

Essential Questions:

- How does my project goal shape the research or inquiry I engage in to achieve it?
- What biases may the author have that influence his or her perspective?
- How might others see a problem or issue differently?
- How do I acknowledge and account for my own biases and assumptions?
- How might I adapt my written and oral presentations for different audiences and situations?

Knowledge and Skills (adapted from College Board's *AP Research Course and Exam Description*):

Students will know…

- 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.
- An argument's context (time and purpose) and situation (in relation to other arguments) inform its interpretation.
- 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.
- The line of reasoning is a clear, logical path leading the audience through the reasons to a conclusion.

- 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.

Students will be able to…

- Retrieve, question, organize, and use prior knowledge about a topic.
- Evaluate the validity of an argument.
- Evaluate objections, implications, and limitations of alternate, opposing, or competing perspectives or arguments.
- Formulate a well-reasoned argument, taking the complexities of the problem or issue into consideration.
- Communicate information through appropriate media using effective techniques of design.

STAGE 2

Assessments:

- **"Propaganda" Poster:** Students will use their best visual presentation skills to create a poster for the hallways to promote the AP Capstone program to sophomores and freshmen. Students will be required to use a standard size poster board and the visual medium of their choice, while ensuring copyright fair use, in promoting the benefits of the AP Capstone program.
- **Meme-a-palooza:** Students will use stills of their practice POD to create a meme of themselves. It should follow the universal meme font and the still can be altered according to sentiment. Students may not use a still that has a graph or information attributed to others unless they source it in the meme. Peers will review and vote on the best meme. The meme should be generated from a difficult part of the POD so students can self-reflect with some levity.
- **Scholarship application (option):** Students will find one scholarship they will submit their paper to. More than one student can submit to the same scholarship.
- **External Research and Competitions (option):** Students who desire to continue their scholarly work through submission and presentation to academic competitions will be encouraged to do so. Teacher and student will review competition rules and proposal submissions sot that they may translate their work accordingly by the deadline.
- **Publication Submission (option):** Students who want their work considered for publication can do so to many student peer-reviewed journals and/or a journal to which his/her expert adviser is aware of. Students will revise their work, if necessary, to submit for review and possible publication.
- **Public Relations presentation:** Students will create one more presentation to present to some members of the community at large, whether it is a group of students to whom they are presenting the benefits of Capstone, a public presentation as part of the programs at the library, to policy makers or community outreach programs, etc. The presentation can be based on their RAP or on the benefits of AP Capstone.
- **Process and Reflection Portfolio (PReP):** The PReP is a weekly log of research process, challenges, solutions to challenges, evidence of working with the community,

directions in the inquiry process, evidence, and reflection on progress towards the RAP and presentation. Teacher and field experts will help guide this process by providing specific questions for each student's portfolio as well as larger, whole class questions to guide the reflection and pacing of the tasks. This will be done on Tuesdays or Wednesdays depending on A and B weeks of block. A minimum of a half page of reflection in the form of a journal is required plus additional documentation as required by the teacher. Any worksheet that is assigned will be submitted to PReP as well as any assignment including but not limited to annotated bibs. In its final form it needs a minimum of the following: table of contents, completed and approved inquiry proposal, selected assignments assigned by teacher, approvals from IRB or documentation of permission from primary sources (such as survey participants, etc.), documentation of correspondence with expert advisor, peer review and other feedback, reflection on feedback, a signed copy of the AP Capstone Policy on Plagiarism and Falsification or Fabrication of Information, and journal entries.

Benchmark & Summative Assessments:

- Mid and end of year assessments are given as needed based on the needs of the students.

STAGE 3

Sequence of Teaching and Learning Experiences:

- **AP Capstone benefits data:** Students will conduct research, formal and informal, on the data surrounding the increased benefits in other AP programs and in college of the AP program. Students will create two annotated bibliographies on at least two sources including citation, summary, how it can be used to sell the program, and if it can be visualized in a display.
- **Scholarship, Competition, and Publication Research:** Students will use the guidance counselors and their expert advisers as well as the internet to research scholarship opportunities related to their topic of inquiry. Students can also research external research and competition platforms should they choose to continue to want to explore their topic of inquiry. Peer reviewed student publications are also available to those who wish to try to get published; students can research those opportunities and amend their RAP accordingly for the publication's review board.
- **Presentation creation and practice:** Students will prepare an abbreviated version of their POD or a new presentation on Capstone benefits and arrange to present it to community members outside of the classroom. Parents must approve the presentation schedule if it is to occur outside school hours. Students will also present for AP Research peers in order to practice and get feedback on the presentation.
- **PReP exit ticket:** Students will reflect on five questions as they get ready to exit the AP Capstone program. They will be asked to reflect on how they think this program enabled them to become better citizens and life-long learners. Students will reflect on what they feel had the biggest impact on them and the skill they will value the most. They will also

be asked to submit to the teacher how they believe instruction could be improved and why.

Resources:

- Posterboard and markers
- Color printer, scissors, glue
- Laptops and printer
- Database and internet access
- SmartBoard and whiteboard

Interdisciplinary Connections:

During the final PReP journal entries and the student's possible search for other community involvement in their topic of inquiry, the following social studies standards may be used:

- 6.1.12.D.3.d Analyze the role education played in improving economic opportunities and in the development of responsible citizens.
- 6.1.12.D.16.b Explain how and why technology is transforming access to education and educational practices worldwide.
- 6.3.12.B.1 Collaborate with students from other countries to develop possible solutions to an issue of environmental justice, and present those solutions to relevant national and international governmental and/or nongovernmental organizations.