

Newman Catholic High School

Senior Capstone 2022

To the Class of 2023:

If you are reading this you must be a second semester junior, which means I now officially welcome you to Senior Capstone! There is no reason to dread Capstone, provided you do not procrastinate. Choose a topic you are truly interested in, pay attention to details, and enjoy the journey.

All Capstone materials will be posted on the Newman high school home page, including a copy of the timeline. There is no excuse for you not to know when items are due. All questions concerning Capstone can be found by reading the documents found there. If you do not know what to do, that is a choice you are making. It is also your choice if you do not follow directions. This is a self-directed endeavor, your advisor and I will help you and provide clarification, but the chief responsibility for successful completion rests with you. If you lose any handouts, go to the website and print off a new copy, your advisor does not have them. Make sure you show up to meetings prepared and with the required materials, all meetings and deadlines have implications for your Capstone grade.

From the Capstone Coordinator:

Mr. Tony Noll

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DESCRIPTION

Senior Capstone is a self-directed learning experience. With guidance from a faculty advisor and a consultant, students will develop a significant research project or senior thesis in a subject area of their choice. It is expected that the project/thesis will be considerably more extensive than the content already covered in any particular course. The Senior Capstone is worth one-half of one credit, and the final grade for the entire project will appear on report cards and transcripts at the end of the first semester of senior year. Progress on Capstone will be tracked on Skyward like any normal class, with points being awarded based on an established rubric. Capstone is figured in to the student's GPA and failure to complete the requirements will result in a failing grade.

All seniors are required to complete Senior Capstone as a graduation requirement.

PURPOSE

The purpose of Senior Capstone is to provide students with the opportunity to share skills and information they have learned in an area of their choosing. Students have a unique opportunity to demonstrate what they have learned through their research. Benefits of the project include the following:

1. Capstone provides a unique learning experience for students.
2. Students are directing their own learning.
3. Capstone helps students to explore areas for careers or avocations that may be of interest.
4. Students develop skills in critical thinking, independent research, organization, communication, writing, and speaking.
5. They must meet deadlines and demonstrate responsibility.
6. Capstone can be an impressive element of a resume for college acceptance and scholarships.

OPTIONS

There two options to choose from, an experiment-based research project or a thesis paper. Regardless of the option chosen, the topic must lend itself to original research. The question for exploration needs to be genuine, significant and problematic. Detailed descriptions and requirements can be found on the Newman High School website under Senior Capstone, but the options include the following elements:

- 1. Experiment-based Research Project** Research Paper (8 page minimum)
 - a. Project*
 - b. Paper (8 page minimum)
 - c. Scientific Evidence (Lab Reports)
 - d. Oral Presentation
 - e. Process Log

- 2. Thesis**
 - a. Thesis (15 page minimum)
 - b. Oral Presentation
 - c. Process Log

* Science based research projects could be eligible for the Ray Sr. and Maxine Szmanda Science Scholarship. See website for details.

Newman website:

<https://www.newmancatholicschools.com/domain/102>

Left column Senior Capstone, right column Forms & information.

ADVISORS

You will work with a faculty advisor, all Newman Catholic High School, Middle School, or Central Office full or part time faculty members, staff or administrators are eligible to serve as Senior Capstone advisors. The advisor does not need to be an expert in the area you have chosen to research, but it is helpful if they have an interest. If a student wishes to complete an experiment based research project they must use scientific methods to test a hypothesis. If the project is science based it is highly recommended that they secure an advisor from the science department, particularly if you are interested in pursuing the Szmanda Scholarship An advisor outside of the science department that is well versed in a subject matter and is willing to make sure scientific methods are being followed is acceptable.

The role of the advisor is to help guide you through the Capstone process and provide advice regarding research and writing. It is not the advisor's responsibility to check up on you or cajole you to meet deadlines, etc. Capstone is specifically designed to be a student directed learning experience. Frequent contact with your advisor is recommended, but you must initiate it. In all cases, it is your responsibility to meet all deadlines and to contact your adviser regularly to make sure you are on the same page.

CONSULTANTS

Formally this person was referred to as a mentor. A valuable aspect of the Senior Capstone experience is consulting a professional in the field that you are researching. This should be done well before you begin the writing process. The consultations may range from telephone or e-mail conversations to extensive individual work sessions, or job-shadowing. Many members of the community, universities, businesses, and corporations are willing to assist students with research. Depending on your area of research may determine how dependent you will need to be on your consultant.

At minimum, you are required to conduct at least one substantial interview with your consultant. You are required to create a transcript of that interview and include it as an appendix to your paper. You must include at least one citation to this interview in your paper. (As a rule of thumb, at least ten questions related to the subject matter of your research would be expected in a substantial interview.) If you interview your consultant in person, you can construct a transcript from your interview notes or from a recording of the interview. Make sure your consultant consents to being recorded if you go that route. You can conduct an interview by email, in which case you can use the emails of your questions and the consultant's responses.

You should work with your advisor to identify possible consultants as early in the process as possible. As we move through the spring, if you are having difficulties finding a consultant, document the attempts you made in your process log and talk to your advisor.

EVALUATION TEAM

You are graded at various points in the process of completing Capstone, by your advisor and the Capstone Coordinator. Your thesis paper or project and presentation will be evaluated by a committee of three faculty members including your advisor.

Senior Capstone

Critical Terms

1. Genuine

At the heart of a solid research project is a genuine research question. Students should be *genuinely* curious about some aspect of the topic they choose, and they should experience some sense of excitement at the thought of spending a few months researching and writing about the question they pose. At the college level, professors want students to wrestle with problems and questions. This applies to both academic and technical colleges. It also applies to many fields of work. Students should *not* be concerned with having the “right” or “wrong” answer; rather, they should be intensely curious about the heart of an issue. The kinds of questions that stimulate the thinking and writing most valued are open-ended questions that focus on unknowns or uncertainties.

2. Significant

A significant research question, thesis statement, and/or hypothesis is one that an audience genuinely cares about. A thesis statement or hypothesis should have significant consequences depending on the discipline(s) in which the student is working. For instance, results of a project might impact how the audience understands a theory or a work of literature. It might

shed light on some historical event. It might lead to practical change for different demographics. The list goes on.

Sometimes, if it is not obvious to an audience why they should care about a topic, thesis statement or hypothesis, it is part of the job as the writer to make them understand why they should care.

3. Problematic

A problematic research question, thesis statement, and/or hypothesis is one that is open to reasonable debate. Good research questions are open ended and invite multiple points of view or alternative hypotheses; they stimulate critical thinking and research. This, then, potentially leads to multiple and different kinds of thesis statements and/or hypotheses. Students need to keep in mind that for Senior Capstone, they are moving beyond writing simple reports. Rather, they are taking an educated stand on a problematic issue.

Again, sometimes it may not be obvious to an audience that a chosen topic *is* important and problematic. If that is the case, the writer's job is to make the audience understand the problematic nature of the research question.

Here is a great place to get started when trying to formulate a question:

<https://www.scribbr.com/research-process/research-questions/>