



STEAM Capstone Project

REQUIREMENTS | GULF SHORES HIGH SCHOOL 2020 – 2021

What is a STEAM Capstone Project?

A STEAM Capstone Project affords a student an opportunity to collaborate with a mentor or work independently to pursue a project that applies science, technology, engineering design, arts, and math to the real world in an area of interest to the student.

We encourage students to connect their projects to community issues or opportunities here in beautiful Gulf Shores, and to integrate real-world learning experiences, including interviews, observations, and collaborations with local businesses or academics.

Why do a STEAM Capstone Project?

A STEAM Capstone Project is designed to prepare a student for university and business through the opportunity to plan, research, complete, and present a self-directed project reflecting a personal career or academic interest or a connection to the Gulf Coast.

A capstone project affords a student an opportunity to work with a mentor on a topic of interest and is a visible demonstration to our local community of a student's skills and abilities.

The project showcases above-and-beyond achievement on a student resume and college application and can be a differentiator for especially competitive college programs and scholarships.

An interdisciplinary project enables students to synthesize learning and apply skills or investigate issues across multiple areas of interest and demonstrate the most important components of their high-school learning.

What if I'm in the Applied Design Academy?

Gulf Shores High School Applied Design Academy students complete the research-based STEAM Capstone Project incorporated in the engineering curriculum during their 11th grade year.

OK. I'm interested. What's required?

1. Project Plan
2. Paper
3. Portfolio
4. Presentation

Project Plan

The student creates and implements a plan for an integrated STEAM project. The project should address a specific community need or opportunity in and around Gulf Shores.

The project plan should show how the student will apply principles of science, technology, engineering, arts, and math to the real world in an area of interest to the student.

The project plan should follow design thinking best practices, including the creation of real impact through the intersection of human desirability, technological feasibility, and business viability.

The plan must culminate in any one of the following: a service, a physical product, a prototype, a design, a movie, a poster, a model, a sketch, a CAD file, a display, a computer program, a technology, an application of technology, a conceptual map, an analysis, a survey, or a patent filing.

Paper

A research paper that outlines background information, research methodology, data, results, and conclusions of the project.

In addition to demonstrating an understanding of STEAM concepts and application of relevant practices, the paper showcases brilliant communication skills and stalwart scholarship, citing multiple credible and current sources.

Portfolio

The portfolio documents the process of completing the project and should include a reflection journal plus at least two other relevant forms of evidence of completion of requirements, such as: experimentation results, spreadsheets, data files, analyses, calculations, blueprints, drawings, surveys, interview results, audio files, video clips, images, the final paper, and a copy of the presentation.

The reflection journal should demonstrate the design thinking process as a series of daily reflections, plans, notes, thoughts, sketches, images, ideas, brainstorming, matrices, contacts, hunches, tools, meeting notes, and conclusions.

The overall portfolio should demonstrate documentation of the entire project in a clear and compelling format.

Presentation

Have fun and tell us what you learned!

This presentation isn't meant to be a boring, stiff, or dry event.

We want you to relax and be yourself as you tell the story of what you set out to accomplish, what you learned along the way, and how you completed the project or failed to complete it.

The scientific and engineering design process matters most.

We want to celebrate failure to achieve a desired goal if you learned valuable lessons along the way and can communicate your learnings.

Your presentation should provide a summary of the research paper, and give evidence of meeting the STEAM criteria in a professional manner. To earn STEAM Honors, the student must score a minimum of 80% proficiency on the paper, portfolio, and presentation components.

Timeline

Sept. 14, 2020

- Project Proposal Due



Oct. 12, 2020

- Forms 1, 1A, & 1B Due



Nov. 30, 2020

- Research Plan Summary Due



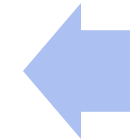
April 2, 2021

- Notification of Committee Decision



March 26, 2021

- Final Presentations



March 1, 2021

- Portfolio, Research Paper, Application Due*

Where can I find more information?

Seal of Excellence in STEAM Capstone Project

*Application for Seal of Excellence is due senior year only!