



ENGR 399Q

Integrated Science and Design

Term YYYY

Instructor:

Name

Office Address TBA

Phone Number TBA

Email address

Class Times:

TBA

Description:

In this first of the two-course capstone sequence, students initiate culminating major engineering design projects. Projects can be developed from experiential opportunities, using concepts learned in foundational science, engineering science and advanced elective courses and/or a contemporary community problem. Students will use the engineering design approach to identify, formulate the specific problem under consideration and propose solutions by applying principles of engineering, science, and mathematics. (2 credit hours, Pre-requisites: permission of instructor and approved contract.)

Outcomes:

Outcomes are determined on a case-by-case basis. In designated experiential learning (Q) sections, students will:

- (1) demonstrate the knowledge and skills obtained through participation in experiential learning activities that are relevant/pertinent to their academic programs and/or career goals, and
- (2) demonstrate a high level of comprehension and skill in connecting theory with practice which is correlated to their level of participation in experiential learning activities.

ABET Outcomes:

This course supports achievement of the following ABET student outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. ***an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.***

Assignments: *Engineering Notebook:* For the integrated science and design course, students will maintain an engineering notebook that documents the day-to-day activity on the project, experimental/theoretical/modeling procedures, results and analysis in the moment. The supervising faculty member will dictate the format for notebook entries, with a grading procedure established before the beginning of the project.
Written Report: Students will complete a written report on the process and results of their project. This report will be graded based on the Written Report Rubric established by the department.
Oral Report (for Honors): Students will complete an oral report on the process and results of their project. This report will be graded based on the Oral Report Rubric established by the department.
Other: The faculty member supervising the student may require other assignments. These assignments and the grading procedure should be made clear before the start of the course. If there are no other assignments, then weighting for this category will be distributed to the other categories in a manner determined by the supervising faculty member.

Grading: Grades will be assigned based on performance on assigned tasks discussed above. Weighting of learning tasks is as follows:

Engineering Notebook:	25%
Written Report:	25%
Oral Report (for honors):	25%
Other:	25% (10% preliminary source code, 15% final source code)

Grading Scale:

A	89.5% and above
B+	84.5% — 89.4%
B	79.5% — 84.4%
C+	74.5% — 79.4%
C	69.5% — 74.4%
D+	64.5% — 69.4%
D	59.5% — 64.4%
F	59.4% and below

Honesty: **Coastal Carolina University's Statement of Community Expectations:**
Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and reporting the inappropriate action of others and are committed to creating an atmosphere of mutual respect and trust.

Revisions: This syllabus describes the course as best it can. The instructor reserves the right to make changes in its content. If changes must be made to it during the semester, students will be immediately notified.