- **Course Number and Title:** ENGR 402. Engineering Capstone II

- **Catalog Description:** Seniors will work in teams to apply a systematic design process to real world multidisciplinary problems. Problems are selected from a broad spectrum of interest areas. Students will utilize the knowledge and skills acquired in earlier course work, and incorporate appropriate engineering standards and multiple realistic constraints. Emphasis is placed on the design process, the technical aspects of the design, and the development of a prototype that meets design objectives. Students must be a Senior to enroll in this course.

- **Credit Hours:** 3 Credits (1+6P)

- **Prerequisite(s) / Corequisite(s)** Prerequisite(s): ENGR 401
  Corequisite(s): None

- **Required:** Required for BSME Degree

- **Course Availability:** Spring Semester Only

- **Instructor (Usual):** Luke Nogales (See https://et.nmsu.edu/people/people-directory.html)

- **Textbook:** None

- **Course Learning Objectives:** After completing this course, a student should be able to:
  1) Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
  2) 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) Communicate effectively with a range of audiences.
  4) 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) Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
  6) Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
  7) Acquire and apply new knowledge as needed, using appropriate learning strategies.

- **Topics Covered:**
  - Product Development
  - Prototyping

- Testing and Validation
- Communicating Results
- Professional Development