

ME 498: Senior Design II

Class Information:	Detail(s):
Credit Hours	2 Credit Hours
Prerequisites	Senior Standing
Course Day/Time/Location	
Instructor	
E-mail	
Office Location	
Office Hours	

COURSE DESCRIPTION

A two-semester design experience that draws upon topics covered in previous courses, supplementing this knowledge with other information in these courses. Synthesis course to involve students in the design process. Analysis, design completion, and presentation. This design experience should involve elements defined by the Accreditation Board for Engineering and Technology (ABET). To receive a passing grade in the class, each student will have to demonstrate that the design has met objectives by considering various alternatives and meeting predefined constraints; understanding the impact of engineering solutions in a global and societal context and professional and ethical responsibility. Multi-disciplinary projects and producing prototypes are strongly encouraged.

STUDENT LEARNING OUTCOMES

Upon completion of this course, students will be able to:

- 1) Explain the need for the product or design
- 2) Apply project management techniques to team design project
- 3) Divide design into subsystems
- 4) Decompose design into components; Perform stress/strain/deformation analyses on the components of your design.
- 5) Modify design based upon performance, cost, design for manufacture, and design for assembly.
- 6) Produce layout drawings, assembly drawings, and some detailed drawings with dimensions and tolerances.
- 7) Demonstrate design has met declared objectives by considering alternatives and meeting defined constraints
- 8) Explain the impact of an engineering solution in a global and societal context
- 9) Explain professional and ethical responsibilities related to the project

Course ABET 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

- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

GRADING

Grades are based upon student performance on assignments. Each assessment tool is weighed as follows:

- 10% Homework/Project Management Assignments, Progress Reports
- 10% Mid-Semester Oral Presentation
- 25% Final Prototype/Design
- 20% Final Poster and Presentation
- 35% Final Written Report

Note: Graded material will not be kept longer than one semester after the course is completed.

GRADING SCALE

Letter grades are assigned according to the following scale:

Letter Grade	Percentage
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	0-60

GRADING POLICIES

Assignments are due *at the start of class* on the due date assigned unless otherwise noted. It is expected that assignments will be handed in on time. Late assignments will not be accepted or graded; extenuating circumstances *may* be considered at the discretion of the instructor

UNIVERSITY POLICIES

Face coverings are currently mandatory for all faculty and students in the classroom. Students must follow all active UNLV public health directives while enrolled in this class. UNLV public health directives are found at [Health Requirements for Returning to Campus](https://www.unlv.edu/coronavirus/health-requirements), <https://www.unlv.edu/coronavirus/health-requirements>. Students who do not comply with these directives may be asked to leave the classroom. Refusal to follow the guidelines may result in further disciplinary action according to the [UNLV Student Conduct Code](https://www.unlv.edu/sites/default/files/page_files/27/StudentConduct-Code.pdf), https://www.unlv.edu/sites/default/files/page_files/27/StudentConduct-Code.pdf, including being administratively withdrawn from the course.

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The [UNLV Disability Resource Center](#) (Student Services Complex, SSC-A, Room 143, <https://www.unlv.edu/drc>, telephone 702-895-0866) provides resources for students with disabilities. Students who believe that they may need academic accommodations due to a permanent disability, temporary or permanent medical need, or academic support due to pregnancy are encouraged to contact the DRC as early as possible in the academic term. A Disabilities Specialist will discuss what options may be available to you. Students who are already registered with the DRC should request their accommodations online each semester, and make an appointment to discuss their accommodations with their instructors.

adjusted accordingly. Students who are fulfilling an Incomplete grade do not register

Librarians are available to consult with students on research needs, including developing research topics, finding information, and evaluating sources. To make an appointment with a subject expert for this class, please visit the

and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the University. Sending emails within WebCampus-Canvas is also acceptable.

The Academic Success Center (ASC), at the Claude I. Howard Building, provides tutoring, academic success coaching, and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, please visit the [ASC website](https://www.unlv.edu/asc), <https://www.unlv.edu/asc>, or call 702-895-3177. The ASC is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of SSC A, Room 254. Drop-in tutoring is located on the second floor of the Lied Library, and on the second floor of the College of Engineering building (TBE A 207).

One-on-one or small group assistance with writing is available free of charge to UNLV students at the [Writing Center](https://writingcenter.unlv.edu/), <https://writingcenter.unlv.edu/>, located in the Central Desert Complex, Building 3, Room 301 (CDC 3 301). Walk-in consultations are sometimes available, but students with appointments receive priority assistance. Students may make appointments in person or by calling the Center, telephone 702-895-3908. Students are requested to bring to their appointments their Rebel ID Card, a copy of the instructions for their assignment, and two copies of any writing they have completed on their assignment.

As an institution of higher learning, UNLV represents a rich diversity of human beings among its faculty, staff, and students, and is committed to aspiring to maintain a Campus environment that values that diversity. Accordingly, the University supports understanding and appreciation of all members of its community, regardless of race, sex, age, color, national origin, ethnicity, creed, religion, disability, sexual orientation, gender, gender identity, marital status, pregnancy, genetic information, veteran status, or political affiliation. Please see [University Statements and Compliance](https://www.unlv.edu/about/statements-compliance), <https://www.unlv.edu/about/statements-compliance>.

A successful learning experience requires mutual respect and trust between the students and the instructor. Accordingly, the instructor asks that students be willing to listen acknowledging that there may be disagreements, keep discussion and comments on topic, and use first person, positive language when expressing their perspectives.

UNLV is situated on the traditional homelands of Indigenous groups, including the Nuwu or Nuwuvi, Southern Paiute People, descendants of the Tudinu, or Desert People. We honor and offer gratitude for those who have stewarded the land; for the land itself; and for the opportunity to cultivate a thriving, diverse, inclusive, and just scholarly community here today that works for a better tomorrow for all.

