

SIE-498A Senior Design Project Syllabus Spring 2022

Class Location and Times:

Classroom: ENGR 121 and/or Zoom

Time to be determined, 12 January – 4 May

Description of Course

Teams of students will use material taught in the SIE curriculum to address a customer's needs and help a real-world client design or improve a system. Students will collectively use a system design process, elicit stakeholder needs, derive system requirements, identify project and technical risks, and develop a project plan and schedule. Students will communicate orally and in writing. A series of design reviews will monitor project goals, schedule, risk, and progress.

Course Objectives and Expected Learning Outcomes:

The objective of the Senior Design Project is to utilize the knowledge and skills gained from the Systems Engineering, Industrial Engineering, or Engineering Management curriculum to address and solve a real-life problem. The scope of the project will be determined in consultation with the instructor. The project must utilize and demonstrate knowledge, skills, and tools gained from classes in the Systems Engineering, Industrial Engineering, or Engineering Management curriculum, depending on the student major.

Course Prerequisites or Co-requisites

Prerequisite: SIE 498A should be taken in the student's second to last semester.

Instructor and Contact Information

Instructor: Dr. Alejandro Salado

Office: ENG 268 or ENG 121

Phone: 520.626.0728

Email Address: alejandrosalado@arizona.edu

Home Page: <https://sie.engineering.arizona.edu/faculty-staff/faculty/alejandro-salado>

Office Hours: By appointment.

Course Text

No course textbook is required. Recommended references and readings will be provided in D2L as needed.

Course Software

Students are encouraged to use a team management system. Freedom of choice is provided as long as it is consistent with university policies.

Course Format and Teaching Methods

SIE-498A Senior Design Project

Syllabus Spring 2022

Students will work together in small teams on a project. By default, all team members will receive the same grade for the overall project. However, if a student is found to have not substantially contributed to the results of the project, their grade will be assessed independently. Mechanisms will be put in place to fairly identify and assess individual contributions.

There are six project deliverables: a written project proposal, a requirements review presentation, a preliminary design review report, a preliminary design review presentation, a critical design review report, and a critical design review presentation (example formats on D2L).

All course information is located on the course homepage, which is in Desire2Learn at <https://d2l.arizona.edu/>.

The course will utilize lecture and in-class discussions, as needed by the different teams.

Class meetings will be recorded and archived on the Desire2Learn course website.

Grading Scale and Policies:

University policy regarding grades and grading systems is available at:

<http://catalog.arizona.edu/policy/grades-and-grading-system>

This course's grading scale is:

Grade:	Standard	Description
A	$90\% \leq x$	excellent
B	$80\% \leq x < 90\%$	good
C	$70\% \leq x < 80\%$	satisfactory
D	$60\% \leq x < 70\%$	poor
E	$x < 60\%$	failure

Where "x" = (points earned divided by points available X 100%) in the course.

Grading in this course will be assessed on the required deliverables for each milestone, as follows:

Deliverable	Grade allocation
Written Proposal	10%
Requirements Review	30%
Preliminary Design Review	30%
Critical Design Review	30%

Due dates for submitting the required deliverables are available on D2L each milestone, the following aspects will be evaluated:

SIE-498A Senior Design Project Syllabus Spring 2022

- Effectiveness of the solution.
- Correctness in the use of relevant SIE methods.
- Presentation and reporting quality.

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

Dispute of Grade Policy: Provide within the acceptable time period for disputing a grade on a paper, project, or exam.

Participation

The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>. The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, see: <http://policy.arizona.edu/human-resources/religious-accommodation-policy>. Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <http://policy.arizona.edu/employmenthuman-resources/attendance>.

Classroom Behavior Policy:

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Mainly from the university classroom policy (adopted by the Faculty Senate):

- Not leaving early. Early leaving will distract both the instructor and students
- Not talking with other classmates while the instructor or another student is speaking. If a student has a question or comment, he or she should raise a hand, rather than starting a conversation about it with a neighbor
- Not packing backpacks to leave until the instructor has dismissed class
- Showing respect and concern for others by not monopolizing class discussion. Students must allow others time to give their input and ask questions. Students should not stray from the topic of class discussion
- Not eating and drinking during class time

Academic Integrity and Code of Academic Integrity:

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to

SIE-498A Senior Design Project

Syllabus Spring 2022

adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>. The University Libraries have some excellent tips for avoiding plagiarism, available at <http://new.library.arizona.edu/research/citing/plagiarism>.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement. Instructor and/or TA will carefully exam all of your homework, reports and exams to prevent plagiarism. For example:

- No copy of other people's homework In grading your homework, TA will exam all of your homework carefully and catch anyone who is copying other people's homework. Even if they are from the same software's output, TA can still judge whether it is a copy of others or not based on your writing and formatting.
- No copy or discussion in the exam TA and other students all will report these behaviors in exams and your exam papers will also be checked carefully for any cheating behavior. Do not sit too close to each other in the exam.

Teaching Assistant's Responsibility

If applicable, TA is mainly responsible for assisting the instructor in various issues, including grading homework/quizzes/exams, teaching part of software and tutorial, and helping students in programming and homework during the office hour.

Send Feedback to US:

If you have any questions, suggestions or comments related to the class, you are very welcome to contact the instructor or TA. We have several ways for communications:

- 1) In-class feedback
- 2) Office hours
- 3) Emails
- 4) Individual appointment (if you cannot come in office hour)
- 5) Feedback in D2L

Threatening Behavior Policy:

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See:

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

UA Nondiscrimination and Anti-harassment Policy:

The University is committed to creating and maintaining an environment free of discrimination, see: <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>.

SIE-498A Senior Design Project

Syllabus Spring 2022

Inclusive Excellence is a fundamental part of the University of Arizona's strategic plan and culture. As part of this initiative, the institution embraces and practices diversity and inclusiveness. These values are expected, respected and welcomed in this course. This course supports elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request. As the course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect.

Additional Resources for Students Statement: Office of Diversity

<http://diversity.arizona.edu/>

<http://www.health.arizona.edu/counseling-and-psych-services>

Accessibility and Accommodations (for students with Disability)

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268, <https://drc.arizona.edu/>) to establish reasonable accommodations.

Requests for incomplete (I) or withdrawal (W)

Must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

Additional Resources for Students

UA Academic policies and procedures are available at

<http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at

<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Subject to Change Statement

The information contained in the course syllabus, may be subject to change, as deemed appropriate by the instructor, see <http://policy.arizona.edu/faculty-affairs-and-academics/course-syllabus-policy-undergraduate-template>.