SIE 265 – Spring 2022 Engineering Management I

Mondays;

Wednesday;

09:00 - 09:50 AM

Aero & Mech Engr, Rm S212

Fridays

INSTRUCTOR

Mohammed Shafae; shafae1@arizona.edu;

Office Hours: Thursdays 12-1 PM via https://arizona.zoom.us/j/83113940094.

TEACHING ASSISTANTS

Youssef Elsakkary; wafaie5435@email.arizona.edu;

Office Hours: Thursdays 1-4 PM via https://arizona.zoom.us/j/81109238575.

Nathaniel Kristian Priegnitz; npriegnitz@email.arizona.edu;

Office Hours: Wednesdays 7-9 PM and Fridays 1-2 PM via https://arizona.zoom.us/j/81732529392.

COURSE DESCRIPTION

Methods and modern techniques of engineering management analysis for financial decision making. Development of income, cash flow, and balance sheet statements. Topics include Time value of money, valuation techniques, replacement analysis, and project acceptance criteria.

Prerequisite(S): MATH 124 or 125

COURSE OBJECTIVES

This course introduces students to concepts of economic analysis, profitability, and cost estimation. Specific outcomes include:

- 1. Understanding concepts of the time value of money.
- 2. Understanding of Pro Forma Income Statements, Cash Flow Statements and Balance Sheets.
- 3. Ability to create financial statements for evaluating Engineering Projects.
- 4. Ability to determine the economic viability of Engineering Projects.

TEXTBOOK

Sullivan, W., E. Wicks, and C. Koelling (2019). Engineering Economy, (17th edition), Pearson/Prentice-Hall. This textbook is required for the class and always read assigned text material as an aid to solving homework problems, and before coming to class.

Required: Pearson MyLab Engineering online access. This is an online homework and tutorial system which accompanies your text. It uses a combination of immediate feedback, study tools, and videos to help you learn. To learn how to register and gain access to the eText and MyLab Engineering through D2L, follow the instructions in the document "Vital Source Inclusive Access to eText and Courseware" available in Course Syllabus and Policies tab under the Content tab of the D2L course site.

COURSE FORMAT

Per the Schedule of Classes, the Instruction Mode of this class is "In Person" so we will meet in Room 212S in the AME Building for all classes unless otherwise announced beforehand.

EQUIPMENT AND SOFTWARE REQUIREMENTS

For this class you will need to use your computer frequently during class time to access in-class assignments through MyLab and D2L and to use Microsoft Excel.

STATEMENT ON COMPLIANCE WITH COVID-19 MITIGATION GUIDELINES

As we enter the Spring semester, the health and wellbeing of everyone in this class is the highest priority. Accordingly, we are all required to follow the university guidelines on COVID-19 mitigation. Please visit www.covid19.arizona.edu for the latest guidance.

ABSENCE AND CLASS PARTICIPATION POLICY

Participating in the course and attending lectures are vital to the learning process. As such, **attendance is required at all lectures**. If you feel sick, or if you need to isolate or quarantine based on <u>University protocols</u>, stay home. Except for seeking medical care, avoid contact with others and do not travel.

Please see below general and course-specific policies.

General Policies

- 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, 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: https://deanofstudents.arizona.edu/absences.
- If you feel sick, or if you need to isolate or quarantine based on <u>University protocols</u>, stay home. Except for seeking medical care, avoid contact with others and do not travel.
- Notify your instructor(s) if you will be missing a course meeting or an assignment deadline.
- Non-attendance for any reason does **not** guarantee an automatic extension of due date or rescheduling of examinations/assessments.
- Please communicate and coordinate any request directly with your instructor.
- If you must miss the equivalent of more than one week of class, please contact the Dean of Students Office DOS-deanofstudents@email.arizona.edu to share documentation about the challenges you are facing.
- Voluntary, free, and convenient COVID-19 testing is available for students on Main Campus.
- If you test positive for COVID-19 and you are participating in on-campus activities, you must report your results to Campus Health. To learn more about the process for reporting a positive test, visit the Case Notification Protocol.
- The COVID-19 vaccine and booster are available for all students at <u>Campus Health</u>.

Course-Specific Policies

- All students must attend the **full** 50-minute lecture joining the classroom no later than 09:00 to minimize any class disruption.
- Students who need to miss a class or a series of classes, due to a legitimate reason, are responsible for emailing the course instructor about this need, as soon as possible. If the need is legitimate, the instructor may allow the student to attend the lecture live via Zoom. Otherwise, the following will apply:
 - The student must watch the full 50 minutes lecture portion of the recording on Panopto before the following class (i.e., by 9:00 AM on the following day of class). Panopto statistics will be used to assess your engagement and whether you truly watched the full recording.
 - The student must finish all assigned in-class work and participation for the class they miss before the following class (i.e., by 9:00 AM on the following day of class).
 - Failure to watch the full lecture recording and/or finishing the in-class work and participation assignment will result losing your in-class work and participation points even if you did the assignment.
- Please note that during the lectures students may be assigned to smaller groups to work together on in-class assignments which can be a very valuable learning and engagement experience that you will miss by not attending.
- The class has "four absent classes with no penalty" policy; that is four absent classes will be dropped for all students (no questions asked) to account for any unplanned out-of-hand absences and the respective loss of in-class work and participation assignment points. However, it is your responsibility to be aware of all the materials covered in the missed class as it will absolutely impact your progress towards the following classes.

CLASS RECORDINGS

For lecture recordings, which are used at the discretion of the instructor, students must access content in D2L only. Students may not modify content or re-use content for any purpose other than personal educational reasons. All recordings are subject to government and university regulations. Therefore, students accessing unauthorized recordings or using them in a manner inconsistent with UArizona values and educational policies (Code of Academic Integrity and the Student Code of Conduct) are also subject to civil action.

ASSIGNMENTS AND EXAMINATIONS

In-Class/Post-Class Work and Participation

Unless otherwise stated:

- There will be practice problems and/or engagement questions/surveys assigned and solved by the students during class time in most classes through different means such as MyLab Engineering, D2L, or handwritten notes to be uploaded to D2L as an assignment.
- In-class work is intended to help students follow up with the material during class time, highlight unclear concepts during class time, ask clear solid questions, and prepare students to solve homework problems smoothly.

- Sometimes students will be split into smaller groups to perform in-class work collaboratively.
- Note that completing in-class work assigned in MyLab Engineering or D2L without attending the lecture or the full Panopto recording (only upon instructor's permission) will not receive any grades.
- In some classes, you will start an assignment in/after the class and will be asked to submit it before the following class.
- Active in-class participation may encourage the instructor to give bonus points to highly active and participating students.

Class Attendance

- Class attendance is required in all classes and accounts for 5% of the course grade
- Attendance checks may not be collected every class and will be collected randomly throughout the semester
- Attendance checks may be collected directly through an attendance check sheet or based on in-class assignments/surveys conducted during class time.

Homework Assignments

- One homework assignment will be typically assigned each week and is due by 11:59 PM on Fridays.
- Late homework submissions are not accepted but to accommodate students with circumstances that arise, illness, travel, disappointing performance, etc., the two homework assignments with the lowest grades will be dropped for all students.
- The homework problems will be assigned and solved online through students' MyLab Engineering access in D2L or directly in D2L assignments (more details will be shared with the first homework assignment).
- For each homework problem, you will be typically allowed two attempts to solve each problem and each attempt allows you three trials for numerical questions. Accordingly, you are highly encouraged to consult the instructor and/or the teaching assistants during office hours if you do not get a problem right in your first attempt.
- Homework grading will be done entirely automatically for some problems but partially for other problems. For problems you will be asked to show your work, the question grade will be pending the TAs check of your work.
- Homework is intended to improve your understanding of course material by giving you an
 opportunity to apply the tools presented in the course. The best way to succeed in this class is by
 practicing. Therefore, you are strongly encouraged to not only do the homework problems assigned
 but check your work with the instructor and/or one of the TAs at office hours and ask questions.
- Discussion of homework assignments with other students is encouraged. The exchange of opinions and discussion with your peers is a valuable learning opportunity. However, each student must complete their homework on their own and show independent work.

Course Project

In the last few weeks of the semester, there will be a multi-assignment project that the instructor will share specific instructions about during class time. This will be assigned individually, and all students will be working on the same problem assigned by the instructor. **Note:** Honors Students have an extra project assignment.

Exams

- This course has three equally weighted exams and are tentatively schedules on 2/18, 3/23, and 4/29.
 Dates will be confirmed later.
- Exams will be conducted during regular class meetings. More specific details will be shared later.
- Attending the three exams is OBLIGATORY for all students. It is the student responsibility to notify the instructor at least one week in advance if you have a conflict with the set exam time.

GRADING POLICY

The final course grade will be based on the total weighted points and the following scale. Final scores will be calculated to the hundredths decimal and rounded to the nearest whole number (e.g., 89.50 = A and 89.49 = B, no exceptions).

A: 100-90%; **B**: 80-90%; **C**: 70-80%; **D**: 60-70%; **E**: below 60%

Grades will be assigned based on performance using the following percentages.

Course Requirement	Percentage of Grade
Class Attendance	5%
In-Class/Post-Class Work and Participation	10%
Homework Assignments	25%
Exam I	15%
Exam II	15%
Exam III	15%
Project	15%

The instructor reserves the right to give **bonus points** for in-class work and participation.

HONORS STUDENTS

If you are an Honors student, there will be an extra two-part assignment. In addition, we will meet three times together outside of the normal class time. We will choose a mutually agreeable time after classes start.

CLASS SCHEDULE

The tentative course schedule is available on D2L. It lists all material to be covered by date and includes references to the textbook chapters.

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.).

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.

ACCESSIBILITY AND ACCOMMODATIONS

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu.

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 adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <a href="http://deanofstudents.arizona.edu/academic-integrity/students/academic-in

The University Libraries have some excellent tips for avoiding plagiarism, available at http://new.library.arizona.edu/research/citing/plagiarism.

UA NONDISCRIMINATION AND ANTI-HARASSMENT POLICY

The University of Arizona is committed to creating and maintaining an environment free of discrimination. In support of this commitment, the University prohibits discrimination, including harassment and retaliation, based on a protected classification, including race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information. For more information, including how to report a concern, please see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

ADDITIONAL RESOURCES FOR STUDENTS

UA Academic policies and procedures are available at http://catalog.arizona.edu/policies

Campus Health

http://www.health.arizona.edu/

Campus Health provides quality medical and mental health care services through virtual and in-person care. Phone: 520-621-9202

Counseling and Psych Services (CAPS)

https://health.arizona.edu/counseling-psych-services

CAPS provides mental health care, including short-term counseling services. Phone: 520-621-3334

The Dean of Students Office's Student Assistance Program

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

Student Assistance helps students manage crises, life traumas, and other barriers that impede success. The staff addresses the needs of students who experience issues related to social adjustment, academic challenges, psychological health, physical health, victimization, and relationship issues, through a variety of interventions, referrals, and follow up services.

Email: DOS-deanofstudents@email.arizona.edu

Phone: 520-621-7057

Survivor Advocacy Program

https://survivoradvocacy.arizona.edu/

The Survivor Advocacy Program provides confidential support and advocacy services to student survivors of sexual and gender-based violence. The Program can also advise students about relevant non-UA resources available within the local community for support.

Email: survivoradvocacy@email.arizona.edu

Phone: 520-621-5767

SUBJECT TO CHANGE STATEMENT

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Students are responsible for all the policies above and for any announcements, assignments, or changes to the syllabus that are announced in class, by e-mail, and/or posted on D2L.