

**SIE 330R: Introduction to Design of Experiments  
Spring 2022**

**Class Hours:** 1/14/2022 – 5/5/2022, Tuesdays and Thursdays 12:30PM - 1:45PM,  
**Classroom:** all lectures will be recorded on D2L, TA will come to classroom, AME S212 at regularly scheduled class times. TA will be in class, but instructor will be using zoom.  
**Instructor:** Allan T. Mense, Ph.D., PE, CRE, [atmense@arizona.edu](mailto:atmense@arizona.edu) , phone: 520-907-7786  
**TA:** Mithun Ghosh, [mithunghosh@email.arizona.edu](mailto:mithunghosh@email.arizona.edu), Mohamad Ahmadi will be grader  
**Office Hour:** Instructor (Monday & Wednesday 3:00PM to 4:00PM by Zoom)  
Mithun Ghosh TA (Office hours: TBD) , Mohamad Ahmadi (office hours)

**Course Description:** Design and analysis of experiments employing numerical and graphical methods. Topics include hypothesis testing, simple comparative tests, factorial designs, ANOVA analysis.

**Prerequisites:** SIE 305 or strong background in statistics.

**Course objectives:**

The principal objective of this course is for students to understand, recall, and apply the basic principles of designing and analyzing engineering and scientific experiments.

**Textbook:**

Montgomery, D. (2018), **Design and Analysis of Experiments, 10th ed.**, John Wiley, and Sons.  
(required) You can get an electronic version of the 10<sup>th</sup> edition through D2L (Inclusive Access eTextbook).

**Course Website:** Course material, announcements, grades, and other pertinent course information will be posted on the course's D2L website. The EXTRA Panopto lectures include short video material from Doug Montgomery the author of your textbook. This is included to better help you understand the course material. The supplemental lectures can be ignored if desired. Students should regularly visit the D2L site.

**Attendance Policy:**

Class lectures will be recorded on D2 as Panopto videos.

**Homework Policy:**

Homework must be readable!

Do not just send in numbers or charts, you must explain the homework answers.

Preferred to receive homework in Word (doc.) format with any excel or Minitab results pasted into word document. You may choose to use a pdf which is also OK. Put answers to all questions in one document NOT in separate documents.

HW will be assigned throughout the semester, usually following the completion of course chapters. All HWs should be submitted **on D2L by 11:59 PM on the due date**. If not preapproved by Instructor or TA there will be a penalty for late submission.

**You MUST learn to use Minitab or some other software that performs DOE calculations. See TA to learn how to access Minitab on SIE Department server.** There is a Minitab tutorial on D2L. There is a paperback book on DOE using Minitab that may be useful in learning Minitab older versions are also acceptable. It is not required.

**Project Policy: More material is forthcoming**

Members in the same team will receive the same project score. For project details, refer to the separate Project Description document. The penalty for late submission is the same as Homework.

**Grading:**

Assessment	Percentage
Quizzes 1,2,3,4	10% each
Homework	40%
Project	20%
Total	100%

The total score is 100. The lowest score to pass the course is 60/100. Grades may be curved at the instructor's discretion.

All Quizzes are on D2L There is no final exam. Quizzes are on material from the previous quiz but material from Chapter 2 is always allowed on all quizzes.

**Disability Resource Center (DRC)**

- Accessibility and Accommodations: At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, <https://drc.arizona.edu>) to establish reasonable accommodations.

**Code of Academic Integrity:**

Graded work 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: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

There is zero tolerance towards plagiarism and any act of intellectual dishonesty.

**Subject to Change Statement:**

Information contained in the course syllabus, except grading policy, may be subject to change with advance notice, as deemed appropriate by the instructor.