

# Engineering Statistics II Syllabus

**Course Overview:** The goal of the course is to reinforce and deepen your understanding of core statistical concepts while familiarizing you with methods of prime value to engineers and scientists, namely regression, ANOVA/design of experiments, and response surface methods.

## Course Resources:

**Website:** I will post copies of all handouts, HW's, HW solutions, etc., on the following website during the course: [www.rose-hulman.edu/class/ma/inlow/Math383](http://www.rose-hulman.edu/class/ma/inlow/Math383)

**Text:** *Applied Statistics and Probability for Engineers, 5th ed.* by Montgomery and Runger.

**Three-ring Binder: (Optional)** This is a convenient way to store handouts, hw's, quizzes, etc., all of which will be hole-punched.

**Software:** Minitab, version 16; Wordpad/Word/Notepad.

**Office Hours:** Anytime after 4th period MTTHF and **NOT before 3rd period.**

**Course Outline:** The following provides a brief outline of the course:

- Probability Review
- One and Two Sample Methods
- Regression: Simple, Multiple and General Linear Models
- Regression: Generalized Linear Models
- ANOVA, Design of Experiments, and Screening Factorials
- Response Surface Experiments
- Quality Control and Statistical Process Control (If Time Permits)

**Academic Misconduct:** The Rose-Hulman student handbook states that academic misconduct “includes actions such as cheating, plagiarizing, or interfering with the academic progress of other students.” In accord with the handbook, I reserve the right to give reduced or no credit for work dishonestly done and to levy further penalties. For more details, see the student handbook.

**Attendance:** You are expected to attend every class. If you miss a class, you are expected to see me and discuss what you missed in class that day. I will warn you if I feel you have missed too many classes. Once you are warned, I reserve the right to give you a failing grade if you continue to miss classes.

**Grades:** Your grade in the course will be computed using the following:

**Class:** These points are based on class participation: Do you work on problems given in class, do you participate in classroom discussion, do you use your computer only for class-related activities, etc.?

**Homeworks:** I plan to assign about one homework per week. Late homework is accepted but there is a penalty of 15% for each day late.

**Quizzes:** There will be at least 4 (announced) quizzes. If a valid excuse is provided (in a timely fashion) for a missed quiz, the comprehensive portion of the final will be used to determine the value of the quiz; otherwise, the value of the quiz will be 0.

**Projects:** There will be at least one team project.

**Exams:** There will be 2 midterms. There are no make-up exams. If a valid excuse is provided, the value of the missed exam will be determined using the final.

**Final:** There will be a final. Part of the final will cover new material; the remainder will be comprehensive.

**Extra Credit:** No extra credit assignments will be given.

**Formula:** Grades will be determined using the usual 90/80/70/60 breakdown, but I reserve the right to curve your grade upward. Below are the point breakdowns:

Class:	30
Homeworks:	60
Quizzes:	80
Projects:	40
Exams:	2*100
Final:	170
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Total	570