MATH 3351.401: PROB. & STAT. FOR ENGINEERS

SUMMER II 2026: SYLLABUS

S. J. GRAVES

Table of contents

1. Summary Information

1.1. Instructor Information.

- **Professor**: S. J. Graves
- **Office**: 4011 RBN
- **Email**: sgraves@uttyler.edu
- **Dept. Phone**: 903-565-5839

Preferred contact method is to use the Inbox in Canvas.

1.2. Class Meetings.

- **Section 401**, MoTuWeThFr, 08:00 – 10:40, RBN 5678

  Important Dates: *6 July*, first day of classes; *9 July*, census date; *29 July*, withdrawal deadline; *7 August*, final exams.

1.3. Office Hours.

- MoTuWeTh, 11:00 – 12:00, RBN 4011
- *Also by appointment.*

2. Course Information

2.1. **Official Course Description.** Fundamentals of probability and statistics with relevant engineering and science applications. Discrete and continuous random variables, statistical inference, parameter estimation, regression, experimental design, and model verification.

2.2. **Course Prerequisites.** A grade of C or better in Calculus II.

2.3. **Student Learning Outcomes.** Upon completion of this course, students should be able to do the following:

- Determine probabilities for discrete random variables from probability mass functions and for continuous random variables from probability density functions, and use cumulative distribution functions in both cases;
- Calculate means and variances for discrete and continuous random variables;
- Select an appropriate probability distribution to calculate probabilities in specific applications;
- Understand statistics and the central limit theorem;
- Perform hypothesis tests and construct confidence intervals on the mean or variance of a normal distribution;
- Explain and use the relationship between confidence intervals and hypothesis tests;
- Perform hypothesis tests and construct confidence intervals involving two samples;
- Understand how the analysis of variance can be used in an experiment to compare several means; and
- Use simple linear or multiple linear regression for building empirical models of engineering and scientific data.

3. Course Content

3.1. Textbooks.

1. **Primary, required** *Probability and Statistics for Engineering and the Sciences, Ninth Edition*, by Jay L. Devore. ISBN 978-1-305-25180-9
2. **Recommended** *The 5 Elements of Effective Thinking*, by Edward Burger and Michael Starbird. ISBN 978-0-691-15666-8

   This inexpensive book can totally change how you view learning and I recommend it to anyone who thinks

Date: 2026-04-21.

they might struggle with course material, whether or not they're in my classes. – SJG

3.2. **Canvas & Email.** You are expected to check Canvas at least daily, and also expected to check your university email. **All non-exam work will be submitted via Canvas.**

3.3. **Grading.** Scores will be posted on Canvas. After the end of the semester, final course grades will be available at https://my.uttyler.edu. A final course grade of 70% is guaranteed to be a C; a final course grade of 80% is guaranteed to be a B; a final course grade of 90% is guaranteed to be an A. All grades below C will be F.

3.4. **Course Structure.** The course content will be organized by Canvas modules. Your grade will be computed on the 100% scale via a weighted average. Lecture notes and quizzes will total 10% of the grade, while exams will constitute 90% of the grade.

3.4.1. *Lecture Notes.*

- In order to encourage attendance, you will be required to scan and upload your hand-written course notes before 23:59 on the same day as class.
- When you miss class, make sure to obtain lecture notes **from a classmate** and submit them before the deadline.
- Completed notes will not be provided by the instructor.
- Each day's notes will be graded as a 0 (no meaningful notes), 1 (halfway complete and meaningful notes), or 2 (complete and meaningful notes).
- The notes *do not need to be an exact transcript of class to be complete*, but must contain all meaningful ideas from class.
- There are more than 35 days for which notes can be submitted; your grade for lecture notes will be calculated as the average of your highest 35 grades.

3.4.2. *Quizzes.*

- Quizzes will draw from homework problems, be completed in class, and turned in via Canvas.

3.4.3. *Exams.* There will be **3** in-class exams, each of which is comprehensive.

Tentative Dates: 15 July, 27 July, 7 August

4. Course Policies

4.1. **Academic Honesty. All work submitted must be your own.** Violations will be processed according to the established guidelines of the department, college, and university. Violations of academic integrity include – but are not limited to – cheating, fabrication (also called falsification), or plagiarizing. A range of academic sanctions may be taken against a student who engages in academic dishonesty.

- Submitting the *homework* or *lecture notes* of another student is **plagiarism**.
- Submitting work generated by "AI' ' (large language models, diffusion models, etc.) as if you had created it without the software tool is **plagiarism**.
- Find the answers to assigned work online and submitting it as your own work is **plagiarism**.
- **Plagiarizing work will result in a grade of 0 for the category, not just the assignment.**
- Cheating on an exam will result in an F for the **course**.
- Posting copyrighted material to the internet without the prior written permission of the copyright holder is **illegal**.

4.2. **Civil Environment.** The free exchange of ideas is a central part of a university education. Class will be conducted in a polite and professional manner and I expect students to behave politely and professionally. *Disruptive behavior will not be allowed and is judged at my sole discretion.* Persistently bad behavior will result in your removal from the classroom.

4.3. **Personal Electronics.** Students are required to have access to a device capable of accessing Canvas and a device capable of scanning hand-written work for upload to Canvas. A scientific or graphing calculator may also be used, but not one capable of accessing the internet. Everything else should be stowed in your backpack during class.

4.4. **Late and Missed Work.**

- No late work will be accepted, due to the extremely accelerated timeframe for the course.
- Up to one absence on an exam day (other than the last exam) may be excused if a documented emergency occurs; for mid-term exams, the exam must be made up the following day during office hours.
- Students missing more than one in-class exam have failed the course and will receive an F.
- *No make ups will be given for the last exam of the term, as it is the last day of the session.*
- Students missing the final exam have failed the course and will receive an F.

4.5. **D Grade Policy.** Final course grades of D will not be given. In order to pass the course, a student must earn at least a C; any grade less than C will be reported as an F on MyUTTyler.

4.6. **Final Exam Policy.** A student who earns an F on the final exam will receive an F for the course.

5. University Policies

The University has many policies required to be disclosed to students; as they frequently change, and in fact the location of the list of these policies frequently changes, it is better to read the **University Policies and Information** page linked from the Canvas course.

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