MATH 3351, Fall 2025
Prob. & Stat. for Engineers — Syllabus

Instructor Information	
Professor:	Dr. Stephen Graves
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The preferred method of contact is via Canvas.
uttyler.instructure.com

Class Meeting Times

Section	Days	Times	Location
001	MoWeFr	10:10 – 11:05	RBN 3038
002	MoWeFr	13:25 – 14:20	RBN 3035

Office Hours

Mo	08:00 — 08:55	RBN 4011
WeFr	11:15 — 12:10	RBN 4011

Also by appointment arranged by email

1. Course Information

1.1. **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.

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

1.3. **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.

2. Important Dates

25 Aug. First Day of Classes; **1 Sep.** Labor Day (*No Classes*); **8 Sep.** Census Date; **3 Nov.** Withdrawal Deadline; **24 Nov. – 28 Nov.** Thanksgiving Break (*No Classes*); **08 Dec. – 12 Dec.** Final Exams

3. Course Content

3.1. **Required Texts.**

a. **Primary,** *Probability and Statistics for Engineering and the Sciences, Ninth Edition*
by Jay L Devore.
ISBN 978-1-305-25180-9

b. **Recommended**
The 5 Elements of Effective Thinking
by Edward Burger and Michael Starbird.[1]
ISBN 978-0-691-15666-8

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 by a weighted average: lecture notes and homework will count for 10%. in-class exams will have a total weight of 60%, and the final exam will have a weight of 30%.

$$\begin{aligned}\text{Grade} = {} & .05(\text{LN}) + .05(\text{HW}) \\ & + .60(\text{EXAMS}) + .30(\text{FINAL}) \leqslant 100.\end{aligned}$$

3.5. **Lecture Notes, 5%.**

- 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.

3.6. **Homework, 5%.**
- Homework will be assigned daily.
- You are encouraged to work together and even more textbfly encouraged to contact me when you struggle.
- Homework must be written by hand, scanned, and uploaded to Canvas before 23:59 on the due date.
- Homework will be checked for *completeness only*, on a similar scale as lecture notes: 0 for minimal completion, 1 for at least half completion, and 2 for full completion.
- There are more than 35 days for which homework can be submitted; your grade will be calculated as the average of your highest 35 grades.

3.7. **In-class Exams, total 60%.** There will be 3 comprehensive in-class exams. **Tentative dates**: 15 September, 10 October, 7 November.

3.8. **Final Exam, 30%.** The comprehensive final exam grade will be reported on the 4.0 scale (with interpreted letter grade). Students who do not take the final earn an F for the course.

3.9. **Extra Credit.** If you have a positive score on at least 35 lecture notes and at least 35 homeworks, your final exam will replace your lowest in-class exam grade *if that improves your overall grade*.

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.

4.4. **Late & Missed Work.**
- Late work will not be accepted
- Missed lecture notes, homework, and homework quizzes will count as 0s
- Absences for homework quizzes due to University-sponsored obligations must be communicated at least two weeks in advance
- Absences due to religious obligations must be communicated before 5 September
- All other absences are unexcused
- A student missing one exam due to documented illness or actual emergency, or due to excused absence is eligible to replace the missed exam grade with the grade from their final exam. *This makes you ineligible to receive extra credit.*
- Students missing more than one in-class exam have failed the course and will receive an F.
- Students missing the final exam have failed the course and will receive an F.

4.5. **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.

Notes

1. This inexpensive book can totally change how you view learning and I recommend it to anyone who thinks they might struggle with course material, whether or not they're in my classes.