MTH 245: Mathematics for Management, Life, and Social Sciences

Catalog Description: Techniques of counting, probability and elements of statistics including binomial and normal distributions. Introductory matrix algebra. Elements of linear programming.

Credits: 4

Terms Offered: F, W, S, Su

Enforced Prerequisites: MTH 111 with C- or ALEKS math placement test: 60% or math placement test: 24, or instructor permission.

Meetings: Three 50-minute lectures and one 80-minute recitation

Course Content:
1. Techniques of counting
2. Probability
3. Elements of statistics including binomial and normal distributions
4. Introductory matrix algebra
5. Elements of linear programming

MTH 245 Measurable Student Learning Outcomes: A successful student in MTH 245 will be able to:

- Apply techniques of counting, probability, and elements of statistics related to probability distributions.
- Apply introductory matrix algebra to solve systems of linear equations.
- Apply graphical linear programming techniques.
- Apply all of these techniques to solve problems and interpret the solutions in context.

MTH 245 satisfies the Baccalaureate Core Skills category for Mathematics and successful completion of the Mathematics category is one of OSU’s First Year Skills requirements.

Baccalaureate Core Learning Outcomes:

1. Identify situations that can be modeled mathematically.
2. Calculate and/or estimate the relevant variables and relations in a mathematical setting.
3. Critique the applicability of a mathematical approach or the validity of a mathematical conclusion.

Evaluation of Student Performance: Your grade and measurement of your progress on the course outcomes will be based on weekly online homework, written quizzes, and in-class activities, along with a written midterm and final exam. (Approximate percentages given.)

- Online Homework: 15%
- Written Quizzes: 15%
- Written Activities: 10%
- Midterm: 25%
- Final Exam: 35%

Selected portions of the text will be covered as follows.

Chapter 1: 1.2, 1.3
Chapter 2: 2.1, 2.2, 2.3, 2.4, 2.5
Chapter 3, 3.1, 3.2
Chapter 5: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7
Chapter 6: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6
Chapter 7: 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7

**Students With Disabilities:** Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Academic Honesty and Student Conduct:** Students are expected to be familiar with the Homework and Exam policies stated in this syllabus, as well as Oregon State University's Student Conduct Code. [http://oregonstate.edu/studentconduct/code/index.php](http://oregonstate.edu/studentconduct/code/index.php).