Operations Research 441/Industrial Engineering 461
Stochastic Models
Spring 2024

Instructor: Ed Sewell   **Office:** SE 2342   **Phone:** 650-3262
Zoom Link: https://siue.zoom.us/j/9121119434
Office Hours: 2:00-3:00 p.m. TR
Text: *Operations Research Applications and Algorithms,* Fourth Edition, by Winston

Course Objectives: Introduce modeling techniques for determining the best course of action for decision problems that involve uncertainty.

Course Outline:

Chapter	Topic
13	Decision Making under Uncertainty
15	Deterministic EOQ Inventory Models
16	Probabilistic Inventory Models
17	Markov Chains
20	Queuing Theory
24	Forecasting Models

Course Requirements: You are expected to:

1. Attend class regularly.

2. Read the book prior to attending class.

3. Work all of the assigned homework problems and be prepared to discuss them in class.

Grades: Grades are calculated as follows:

1. Twelve quizzes (count 10), worth 10 points each.

2. Two exams, worth 100 points each.

3. Comprehensive final, worth 150 points.

Grading Scale	
90-100	A
80-89	B
70-79	C
60-69	D
< 60	E

There will be no make-up exams. If you miss an exam and have a good, documentable reason, then I will count the final exam as 250 points. Borderline grades will be based on attendance, class participation, and final exam score.

Academic Integrity: Adherence to high principles of academic integrity is expected at all time. You are encouraged to help one another with the homework assignments, but all of the work that appears on any exam must be your own.

Homework Assignments

Section	Problems
13.1	1, 2, 5
13.4	1, 3, 4, 8, 13
13.5	1, 4, 6
15.2	1(a, b, c, d), 2, 11
15.3	1, 2
15.4	1, 2, 3
15.5	2, 4(b)
16.3	1, 3, 5, 7
16.4	2, 3, 5
16.6	1, 2
17.2	1–4, 6
17.3	1–3
17.4	1–4, 6
17.5	1, 3, 5, 7, 11
17.6	3(a), 6, 11(a)
20.2	4, 7
20.4	1–5, 13–15
20.5	1–3 (use $\lambda = 125$ packets/sec for 3), 6
20.6	1, 2, 7
20.7	1, 3
20.8	1, 3
20.9	1, 8
20.10	2, 4, 6