MARTIN V. SMITH
SCHOOL *of*
BUSINESS &
ECONOMICS

Course: BUS 502 - Quantitative Methods for Decision-Making | **Mode:** Online | Spring 2025

Instructor: Thomas Wedel, Ph.D., Lecturer | **Email:** thomas.wedel@csuci.edu

Class Times: Tuesday 6:30 PM to 9:30 PM

Office Hours: 5:30 – 6:30 Tuesday and by Appointment (via Zoom)

Overview
This class will teach students how to analyze, interpret, and present data for making decisions in an uncertain business environment.

Quantitative Methods for Decision-Making also known as Business Analytics - data driven techniques for fact-based decision making. The scientific process of transforming data into insight for making better decisions.

Prerequisite: Permission of the College of Business Graduate Office

Learning Outcomes:
- Understand and critically apply the concepts and methods of business analytics
- Identify, model and solve decision problems in different settings
- Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity
- Create viable solutions to decision making problems

Course Materials:
Workbook in Business Analytics: Optimization, Prediction and Description, Spring 2025 by Thomas Wedel (available on Canvas)
Lecture Notes, Computer Exercises and all other course materials are available on Canvas

Methods of Evaluation & Grading Criteria:

Grading:		Average	Grade
	Midterm Exams (2 - 28% each)	88-100	A
	Final Exam (28%)	65-87	B
	Computer Assignments (16%)	50-64	C

Each exam/assignment is graded on a 100-point scale. I use plus/minus grading in the course. Grades will not be curved. All exams are open book/note. The exam problems involve recognizing, setting up and solving problems. There are no multiple-choice or essay questions. All problems in the Workbook are former exam questions.

Exam 1 Take Home Problems: Page 8 #8, Page 9 #10, Page 13 #6, Page 16 #4, Page 17 #8, Page 18 # 12 & #13, Page 22 #8

Exam 2 Take Home Problems: Page 26 #9, Page 31 # 10, Page 36 #14 & #15
Final Exam Take Home Problems: Page 41 #5, Page 47 #15 & 16, Page 52 #8, Page 61 #6

Class Schedule

Date	Lecture	Topic
1/21/2025	1	Introduction/ Basic Probability Rules
1/28/2025	2	General Random Variables
2/4/2025	3	Special Random Variables
2/11/2025	4	Decision Theory – Single Stage Decisions
2/18/2025	5	Decision Theory – Multistage Decisions
2/25/2025		Midterm Exam 1 – Open Book/Note – Covers the material in Lectures 1 – 4
3/4/2025	6	Queuing Theory
3/11/2025	7	Simulation
3/18/2025		Spring Recess
3/25/2025	8	Simulation
4/1/2025		Midterm Exam 2 – Open Book/Note – Covers the material in Lectures 5 – 8
4/8/2025	9	Descriptive Statistics
4/14/2025	10	Estimation
4/21/2025	11	Hypothesis Testing
4/28/2025	12	Regression and Correlation
5/5/2025	13	Review
5/13/2025 7-10PM		Final Exam – Open Book/Note – No Smart Devices – Covers the material in Lectures 9 – 12

Computer Exercises Due Dates

Precision Auto Clone Section 1 – 2/16/2025	Page 33 #4 Simulation – 4/6/2025
Precision Auto Clone Section 2 – 3/23/2025	Precision Auto Clone Section 4 – 5/4/2025
Precision Auto Clone Section 3 – 4/6/2025	Precision Auto Clone Section 5 – 5/4/2025

Policies: It is not my intention to make your life difficult, but it is important that I clarify a few issues. Please read this section at least once and refer to it if any of the issues apply to you at any point during the course! Feel free to reach out to me with any questions.

1. Expectations for Classroom Behavior: It is my intention that everyone in the class feels safe and prepared to fully participate.

2. Attendance and Punctuality: Actively participating requires regular attendance and punctuality.

3. Late Assignments and Makeup Exams: Late assignments will only be accepted if it is approved beforehand for good and substantial reasons. A makeup exam will only be allowed if it is approved beforehand for good and substantial reasons.

4. **Academic Honesty and Integrity:** All the work you submit should be your own work and should reflect your understanding. Any student caught cheating on an exam will receive a failing grade in the course.

5. **Diversity Statement:** Our university is one of the most diverse campuses in the country. We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit.

6. **Commitment to Accessibility:** I am committed to creating a course that is inclusive in its design. If you encounter barriers, please let me know immediately so we can determine if there is a design adjustment that can be made. If you have a disability or special need and require accommodation, please schedule an appointment with a Disability Accommodation and Support Services (DASS) counselor by visiting the office located in Arroyo Hall 210 or by calling 805-437-3331. If you would like to discuss your need for accommodation in my class, please email me to set up an appointment.

This syllabus is subject to change. I will make every effort to notify you in advance about any changes.