BUSA 542: Applied Decision Modeling

Spring 2026

Instructor: Dr. Syed A. Raza

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Office Location: 2064, Dallas Campus

Class Location: 805, Dallas Campus

Class Timing: 3:40-6:10 PM, Tuesdays

Course Duration: 1/29/2026 through 5/8/20206

Office Hours: Tuesdays, 6:20-8:20 PM, Room 2064, Dallas Campus

Virtual Office Hours: Thursdays, 8:30-11:30 AM (Zoom link will be posted on D2L)

COURSE INFORMATION

Required Textbooks

Spreadsheet Modeling and Decision Analysis: A Practical Introduction to Business Analytics (7th Edition)
by Cliff Ragsdale
ISBN: 978-1285418681

Course Description

This course covers the development, implementation, and utilization of optimization models for managerial decision making. Students will learn linear programming models such as network model, integer optimization, goal programming as well as data mining models in this course. Examples include optimization analysis for strategic planning, financial portfolio management, operations, project management, and marketing research.

Course Goals

1. Explain the purpose of optimization modeling.
2. Understand sensitivity analysis.
3. Describe goal programming.
4. Develop an ability to create technical reports for use in decision making

College of Business Student Learning Outcomes:

1. Students will demonstrate proficiency in spoken communications by delivering clear and well-structured business presentations.
2. Students will demonstrate proficiency in written communications by creating clear and well-structured business documents.

3. Students will identify and evaluate ethical business issues.
4. Students will identify and evaluate global business challenges.
5. Students will be analytical problem solvers in business environments.

COB Student Learning Outcomes (SLOs)	Course Outcomes - After successfully completing this course, students will be able to:	Measurement Methods (Outcome Assessments)
2, 5	• Demonstrate an understanding of optimization modeling by creating and running linear programming models to solve business problems. • Demonstrate an understanding of network models. • Demonstrate skill in creating technical reports for decision analysis.	• Exam • Project

GRADING

Please note that the actual points will be used to calculate your final grade. No curving will be used in this class. **All submissions: Assignments, Quizzes/Exams, Projects, and E-learning (Coursera, LinkedIn) are STRICTLY due on their respective Due Dates. Any late submission will incur a 1% or more as PENALTY PER DAY BASIS form the total grade.**

Assessment Criteria

Tasks	Points of the final grade
Exams (Tentatively 3 Exams)	50
Projects	30
Assignments (Tentatively 2 Assignments)	20
Total	**100**

Grading Scale/Policy

Points	Grade
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

TECHNOLOGY REQUIREMENTS

You will need to use Microsoft office tools and Analytics Solver Add-In.

COMMUNICATION AND SUPPORT

If you ask me questions by emails, I will reply within 48 hours. However, I usually answer them much faster. **If you have questions about**

software operations, please make sure to include the screenshots of the issues in the emails. All assignment due dates, deadlines, and exam time are central time in the United States.

COURSE AND UNIVERSITY POLICIES

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@etamu.edu

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

Campus Concealed Carry

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to ((http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

STATEMENT ON AI USE IN COURSES [MAY 2023]:

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

Counseling Center

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

COURSE REQUIREMENTS

The course is managed via D2L (Desire 2 Learn) LMS system with Student Responsibilities or Tips for Success in the Course. You are responsible for reviewing all announcements within the course announcements pages, logging on at least 3 times a week, having and responding to all emails, and completing assignments on time, and attending or listening to recorded lectures early in the week. Failure to do these items will adversely affect your grade.

Examples include: Regularly logging into the course website, amount of weekly study and

participation time expected, etc.

Please use these tips to be successful.

1. Get the textbook. The textbook will be part of all assignments and you will have to reference specific page numbers.
2. Review all the announcements. Check email daily for any feedback I will provide. However, the email will direct you to further information.
3. Please note due dates are generally Sundays but NOT during the final week.

I anticipate that we will follow the schedule I've outlined in this syllabus, but I may make an adjustment based on what actually happens in the course. I may also change the basis for the course grade (if I need to eliminate an assignment or something of that nature). If I do so, I will so inform you in writing. Remaining in the course after reading this syllabus will signal that you accept the possibility of changes and responsibility for being aware of them.

TENTATIVE COURSE OUTLINE

Please note this is tentative outline ONLY, visit D2L course page for detailed information

Week	Module(s) on D2L	Chapter(s) / Content
Week 1	Module 1	Chapter 1: Course Introduction
Week 2	Module 2	Chapter 2: Introduction to Linear Optimization Analysis & Linear Programming
Week 3	Module 3	Chapter 3: Modeling & Solving LP Programs in a Spreadsheet (Part I)
Week 4	Module 4	Chapter 3: Modeling & Solving LP Programs in a Spreadsheet (Part II)
Week 5	Module 5	Chapter 4: Sensitivity Analysis & the Simplex Method
Week 6	Module 6	Chapter 4: Sensitivity Analysis & the Simplex Method (Advanced Applications)
Week 7	Module 7	Chapter 5: Network Modeling – Shortest Path Problems(Case Study: How Google Map is Designed)
Week 8	Module 8	Chapter 5: Network Modeling – Extensions & Applications
Week 9	Module 9	Chapter 6: Integer Optimization Analysis (Part I)
Week 10	Module 10	Chapter 6: Integer Optimization Analysis (Part II)
Week 11	Module 11	Chapter 7: Goal Programming & Multiple Objective Optimization (Part I)
Week 12	Module 12	Chapter 7: Goal Programming & Multiple Objective Optimization (Part II)
Week 13	Module 13	Chapter 8: Non-Linear Optimization (Part I)
Week 14	Module 14	Chapter 8: Non-Linear Optimization & Multiple Objective Optimization (Part II)