



BUSA 424: Business Analytics Modeling

COURSE SYLLABUS: Fall 2020 01 W

Instructor: Dr. Bo Han, Associate Professor of Business Analytics

Office Hours: Online appointment only.

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Preferred Form of Communication: Email.

Response Time: I will reply everyone's emails within 24 hours.

Hello everyone,

Welcome to BUSA 424 Applied Decision Modeling class! To protect your academic privacy, please always send me emails from your tamuc.edu email. Please use emails to ask me questions. This is the fastest way to reach me.

All learning materials such as lecture videos and PowerPoint slides have been uploaded to myleo online. You can access to all of them once the semester starts, and study those materials according to the class schedule listed at the end of this syllabus. If you meet questions, please email me. I'm here to help.

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 is an applied course developing fundamental knowledge and skills for applying management science models to business decision making. Topics include decision analysis, simulation and risk models and optimization models, including the use of software for business applications.

Course Goals

1. Explain the purpose of optimization modeling.
2. Understand sensitivity Analysis.
3. Describe goal programming and evolutionary optimization.

4. Develop an ability to create technical reports for use in decision making.

Learning Outcomes

Upon successful completion of the course, the student should be able to:

1. Demonstrate an understanding of optimization modeling by creating and running linear programming models to solve business problems.
2. Demonstrate an understanding of network models.
3. Demonstrate skill in creating technical reports for decision analysis.

GRADING

Quizzes (A Maximum of 30 Points)

3 quizzes will be given during the semester. You can get a maximum of 10 points for each quiz. You can have 2 attempts for each quiz. If you retake a quiz, the higher points between the two attempts will be the final points for the quiz.

- Quiz 1 will be open from 10 AM on September 14 to 6 PM on September 21, 2020.
- Quiz 2 will be open from 10 AM on October 5 to 6 PM on October 12.
- Quiz 3 will be open from 10 AM on November 9 to 6 PM on November 16.

Projects (A Maximum of 30 Points)

Two projects will be given during this semester. You can get a maximum of 15 points for each project. Please note the project assignments are very important to your final grade! Please be sure to complete and submit every project by the deadline, as shown in the online learning system.

- Project 1 is due by 6 PM on October 31.
- Project 2 is due by 6 PM on December 8.

Exams (A Maximum of 40 Points)

Two exams will be given during the semester. You can get a maximum of 20 points for each exam. Each exam will be open for one week in the online learning system. You can choose any time during the one-week period to take the online exam. Once you start the exam, you have two hours to complete the exam. You can't pause or retake the exam once it is started. The exam dates are:

- Exam 1 will be open from 10 AM on October 19 to 6PM on October 26.
- Exam 2 will be open from 10 AM on December 3 to 6 PM on December 10.

Final Grade

At the end of this semester, if your total point is between 90 and 100, you will get an A; if it's between 80 and 89, you will get a B, and so on. **Please note that the actual points will be used to calculate your final grade.** No percentage or curving will be used in this class.

Points	Grade
90-100	A

80-89	B
70-79	C
60-69	D
below 60	F

Bonus points

You can participate in the instructor assigned activities to get a maximum of 3 points for bonus in this semester.

COMMUNICATION AND SUPPORT

If you ask me questions by emails, I will reply you in 24 hours. However, I usually answer them much faster than this.

If you have questions in software operations, please be sure to include the screenshots of the issues in the emails.

All assignment due dates, project deadlines, and exam time are central time in the United States.

TECHNOLOGY REQUIREMENTS

It is the best practice to use Firefox or Chrome to access to the online class. This is applicable to both Windows PC and Apple Mac users. Please download either one if you don't have any of these Web browsers.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](#)

<http://www.albion.com/netiquette/corerules.html>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

ADA Statement

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

Texas A&M University-Commerce

Gee Library- Room 132

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

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

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 the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

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.

COURSE OUTLINE / TENTATIVE CALENDAR

Week	Date	Module #	Topic
Week 1	Aug 24 – Aug 30	Module 1	Chapter 1: Course Introduction (Introduction to Modeling & Decision Analysis) Review of Important Excel Functions
Week 2	Aug 31 – Sep 6	Module 2	Chapter 2: Introduction to Linear Optimization Analysis & Linear Programming
Week 3	Sep 7 - 13		Labor Day. No Class
Week 4	Sep 14 - 20	Module 3 Quiz 1	Chapter 3: Modeling & Solving LP Programs in a Spreadsheet Chapter 4: Sensitivity Analysis & the Simplex Method

Week 5	Sep 21 - 27	Module 4	Chapter 5: Network Modeling - Find the Shortest Path (Case Study: How Google Map is Designed)
Week 6	Sep 28 – Oct 4	Module 5	Chapter 6: Integer Optimization Analysis
Week 7	Oct 5 - 12	Module 6 Quiz 2	Chapter 7: Goal Programming & Multiple Objective Optimization
Week 8	Oct 12 - 18	Module 7	Review for Exam 1
Week 9	Oct 19 - 25	Exam 1	
Week 10	Oct 26 – Nov 1	Module 8	Chapter 8: Nonlinear Programming & Evolutionary Optimization
Week 11	Nov 2 - 8	Module 9	Chapter 9: Regression Analysis
Week 12	Nov 9 - 15	Module 10 Quiz 3	Chapter 10: Data Mining
Week 13	Nov 16 - 22	Module 11	Chapter 11: Time Series Forecasting
Week 14	Nov 23 - 29	Module 12	Chapter 12: Introduction to Simulation
Week 15	Nov 30 – Dec 2	Module 13	Final Review
Week 16	Dec 3 - 10	Exam 2	