



Course Syllabus

GBAA 5309 Quantitative Analysis & Decision Theory for Business

Fall 2026

Class: GBAA 5309

Class Time: Asynchronous

Instructor: Philamer Torio, PhD

Office: MAB 309-E

Phone: 432.837.8131

Credits: 3

Location: Online Asynchronous

E-mail: Philamer.Torio@sulross.edu

Office Hours: TBA

Required Materials:

Textbook:

Render, B., Stair, R., Hanna, M., & Hale, T. (2024). *Quantitative Analysis for Management* (15th Edition). Pearson.

Course Description: This course examines quantitative methods used by managers to make effective decisions in complex organizational environments. Students learn to apply decision analysis, forecasting, regression analysis, optimization models, transportation and assignment models, inventory management, waiting-line analysis, project management, and simulation techniques to business problems involving risk, uncertainty, and constrained resources. Emphasis is placed on the interpretation of quantitative results and the communication of evidence-based managerial recommendations.

Course Learning Outcomes: Upon successful completion of the course students will:

1. Apply quantitative models and analytical techniques to support managerial decision-making in complex business environments.
2. Evaluate business alternatives under conditions of certainty, risk, and uncertainty using appropriate quantitative methods.
3. Analyze organizational data using forecasting, regression, optimization, and simulation models to develop evidence-based recommendations.
4. Develop managerial solutions to operational and strategic business problems using quantitative reasoning and analytical tools.
5. Assess the strengths, limitations, and managerial implications of quantitative models in organizational decision-making.

MBA Learning Outcomes: Upon successful completion of the MBA, students will:

1. Students will analyze and solve complex business problems across major business functions, using advanced business practices and strategies
2. Students will communicate in-depth business information through written delivery processes.
3. Students will identify and demonstrate advanced understanding of the impact of ethical and/or social responsibility issues as they affect domestic and/or global

business environments.

MBA Marketable Skills: Upon successful completion of the MBA students will have the following markable skills:

1. Students will understand the functions of the business enterprise in the general economy.
2. Students will have the skills needed to effectively lead a business.
3. Students will be able to craft effective business strategies for both existing businesses and new businesses.
4. Students will be able to make effective oral presentations to both professional and general audiences.

Academic Integrity: Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden. Students should also avoid using open AI sources ***unless permission is expressly given*** for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

Classroom Climate of Respect: This class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against other students.

Counseling: Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/365 support by visiting Timelycare/SRSU. The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and SRSU International students.

Libraries: The Bryan Wildenthal Memorial Library in Alpine offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu/. Off-campus access requires logging in with your LobolD and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123). No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu. Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL) and ScanIt to get materials delivered to you at home or via email.

Americans with Disabilities Act (ADA): Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Mary Schwartz, LPC-S, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mary.schwartz@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

Official Communication: All official communication by the University or me will be sent to your Sul Ross email account. As a result, you are required to activate your email account and check it from time to time for personal communication. I encourage you to email me if you have questions or comments, BUT PLEASE include your full name and the course for which you have questions. Even if you submit your email through the Blackboard site, I cannot tell which course you are in nor what your real name is (i.e., egar123) unless you put it in the body of your email.

Technical Support: The Support Desk is where you can direct your more technical questions. For example, the Support Desk can help you if you are having issues submitting a document, getting videos to play, or using BlackBoard. The support desk is open 24 hours a day/7 days a week for your convenience. You can reach the support desk by calling 888.837.8888 or by email blackboardsupport@sulross.edu. You may also reach the Support desk from the Technology Support tab within Blackboard by clicking the Support Desk graphic on the course homepage or calling 936.294.2780.

SRSU Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook

Assignments

Late Work: There will be a 10% penalty for assignments submitted late. The instructor reserves the right to impose heavier penalties for very late submissions.

Course Requirements and Grading

Requirement	Points Possible	Grading Scale
Weekly Discussion Posts – Due Weekly	350 points	A = 900 to 1000 points
Assignment 1 – Due November 2, 2026	150 points	B = 800 to 899 points
Assignment 2 – Due November 11, 2026	150 points	C = 700 to 799 points
Assignment 3 – Due November 30, 2026	150 points	D = 600 to 699 points
Final Essay Exam – Due December 8, 2026	200 points	F = less than 599 points
Possible Points		1000 points

Course Assignments

Weekly Discussion Board:

1. Faculty will post a weekly discussion board that will be available at 12:01 AM Tuesday and have a due date of the following Monday at 11:59 PM.
2. Students will be required to respond to the question itself by Friday and reply to two other students by Sunday night.
3. The question will be designed to facilitate discussion by requiring students to offer their analysis, evaluation or design based on the courses weekly topic. (Blooms Levels 5-6).
4. The Instructor will be active in the Discussion Board by responding to at least half of the student posts each week.

Discussion Board Rubric: (50 points)

Rubric 1: The student's main post responded completely and substantially to all of parts of discussion question. (30 points).

Rubric 2: The Student's initial post was no later than Friday (5 points)

Rubric 3: The response was well-organized, clear and free of grammatical and mechanical errors. (5 points).

Rubric 4: The student post substantially to two other students. 5 points each (10 points)

Assignment 1: Decision Analysis for Strategic Market Entry

Instructions will be provided in the course's Blackboard webpage.

Assignment 2: Forecasting and Regression Analysis for Capacity Planning

Instructions will be provided in the course's Blackboard webpage.

Assignment 3: Operations Optimization and Project Management

Instructions will be provided in the course's Blackboard webpage.

Final Essay Exam: Integrated Quantitative Analysis Consulting Project

Instructions will be provided in the course's Blackboard webpage. The final exam will be available to students at least one week before the end of the course.

Schedule for GBAA 5309 – 2nd Session, Fall 2026

Week	Topic	Readings
October 19	Introduction to Quantitative Analysis, Probability, and Managerial Decision Making	Textbook Chapters 1, 2
October 27	Decision Analysis Under Risk and Uncertainty <i>Assignment 1 due Monday, November 2, 2026</i>	Textbook Chapter 3
November 3	Forecasting Models and Applications	Textbook Chapter 4
November 10	Regression Analysis and Forecast Evaluation <i>Assignment 2 due Monday, November 11, 2026</i>	Textbook Chapter 5
November 17	Linear Programming and Sensitivity Analysis	Textbook Chapters 6, 7
November 24	Transportation Models, Assignment Models, and Project Management <i>Assignment 3 due Monday, November 30, 2026</i>	Textbook Chapters 8, 9, 13
December 1	Inventory Models, Waiting-Line Models, and Simulation	Textbook Chapters 10, 11, 15
December 8	<i>Final Exam due Monday, December 8, 2026</i>	

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