Quantitative Methods in FRE-Fall '18

Period 7, Monday, Wednesday & Friday 1:55 pm – 2:45 pm

Classroom: Mechanical Aerospace Engineering A-303

Instructor and Contact Information

Period	Time	Monday	Tuesday	Wednesday	Thursday	Friday
**Dr. Misti Sharp Schedule: Fall 2018**						
1	7:25 - 8:15					
2	8:30 - 9:20			Office Hours: 8:30 - 10:30		Office Hours: 8:30 - 10:30
3	9:35 - 10:25					
4	10:40 - 11:30		AEB 3103		AEB 3103	
5	11:45 - 12:35	AEB 3550	AEB 3103	AEB 3550	AEB 3103	AEB 3550
6	12:50 - 1:40	Lunch	Lunch	Lunch	Lunch	Lunch
7	1:55 - 2:45	AEB 3510	AEB 2451	AEB 3510	AEB 2451	AEB 3510
8	3:00 - 3:50	Computer lab office hours: 3:00 - 4:30			AEB2451	
9	4:05 - 4:55					

For appointments outside of office hours, email: mistisharp@ufl.edu; phone: 352-294-7632

Regular office hours in McCarty Hall A, room 1193

Computer lab office hours in McCarty Hall B, room 3086

E-mail is the best way to reach me. As you may notice, my fall teaching load is such that it might be difficult to catch me in my office and waiting until the last minute is also risky. You need to be very timely in your emails should issues arise. Any issues that require action MUST be handled by email so that there is a written record of need. Phone calls and after class conversations are not likely to result in action.

Class cancellations, changes in office hours, meeting locations and the syllabus will be announced on e-learning. Be sure that you receive those notifications in a timely manner (controlled in your e-learning settings). Appointments are not necessary during office hours. Groups of students are welcome.

Undergraduate Advisor:	Mr. Jermaine Dunn; 1170 McCarty Hall A; (352) 294-7638;
	E-mail: j.dunn@ufl.edu
Graduate TA:	Mr. Yefan Nian; 1172 McCarty Hall A; yfnian@ufl.edu
	Office Hours: Wednesday: 3:00 – 4:55
Undergraduate TA:	Ms. Alyssa Davison; 1172 McCarty Hall A; abdavison97@ufl.edu
	Office Hours: Wednesday & Friday: 12:50 – 1:50

Course Description:

Mathematical theory and concepts related to linear, non-linear and logarithmic functions, calculus, optimization and matrix algebra will be introduced. These mathematical tools will then be applied to common economic models such as market equilibrium and welfare, resource management, constrained optimization, etc.

Expected Student Learning Outcomes: After the successful completion of AEB 3510, a typical student should be able to:

- Demonstrate an understanding of basic mathematical concepts, including algebra, functions, differentiation, integration and multivariate calculus;
- Apply mathematical tools in a variety of economic decision making contexts;
- Conceptualize and solve economic problems using quantitative and analytical models and frameworks;
- Communicate the result of the application of mathematical tools in non-mathematical, professional terms;
- Have basic knowledge of how to develop mathematical models for economic problems using excel;
- Succeed in the senior-level coursework in the Food and Resource Economics Curriculum as they will have acquired the necessary mathematical background and foundations.

Prerequisites: MAC 2233 *or* MAC 2311 or the equivalent. It is further assumed that all students have had at least one economics course (either ECO 2013, ECO 2023 or the equivalent).

Required Course Materials:

- ***Text:*** *Mathematical Methods for Business and Economics*, Schaum's Outlines, by Edward T. Dowling. McGraw Hill/Irwin Publishers. 2009. ISBN: 0071635327.
- ***E-learning:*** There is an E-Learning Canvas webpage for this course. E-learning can be accessed via http://elearning.ufl.edu using your Gatorlink username and password. If you are having difficulties accessing E-learning, please contact the UF Computing Help Desk by calling (352)-392-HELP or via email helpdes@ufl.edu.
- ***Other***: This course combines mathematical concepts with practical application and as such, students are required to have a basic knowledge of rudimentary applications of both. If you feel like you do not have an adequate background in math or the use of excel, please use resources such as Kahn Academy (https://www.khanacademy.org/) or Lynda.com (available from http://elearning.ufl.edu) to supplement the classroom materials.

Resources for disabled students:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Requests to the DRC for accommodated exams must be made at least 5 days prior to the exam. Failure to meet this deadline may result in a lack of testing accommodations.

Student counseling and support:

If something happens in your personal life that has an impact on your academic life, you must go through the Dean of Students Office (contact below) for additional accommodations. If you are experiencing other forms of distress that do not impact your performance in my class, there are several resources available on campus for students (http://www.umatter.ufl.edu/)

Service	Location		Phone
GatorWell Health Promotions Services (works on time management, etc.) (gatorwell.ufsa.ufl.edu)	1st Floor, Reitz Union		273-4450
Dean of students (http://www.dso.ufl.edu)	P202 Peabody Hall		392-1261
Counseling and wellness center (http://www.counseling.ufl.edu/cwc/)	2190 Radio Road		392-1575
Sexual Assault Recovery Services (SARS)	Infirmary Building		392-1161
Student health care center (http://shcc.ufl.edu)	Infirmary Building		392-1161
University Police Department (police.ufl.edu)			392-1111
Career Resource Center (http://www.crc.ufl.edu)	1st Floor, Reitz Union		392-1601
FRE Undergraduate Staff (http://fred.ifas.ufl.edu/undergrad/)	1170 McCarty A		294-7640
UF Help Desk—Technical Support (helpdesk@ufl.edu)	1st Floor, the HUB		392-4357
Library Support (http://cms.uflib.ufl.edu/ask)	online		
Teaching Center (http://teachingcenter.ufl.edu/)	Broward Hall		392-6420
Writing Studio (http://writing.ufl.edu/writing-studio/)	online		846-1138

Academic Honesty: UF students are bound by **The Honor Pledge** which states:

> *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated

to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of this class.

Student Responsibility: Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court.

Faculty Responsibility: Faculty members have a duty to promote honest behavior and to avoid practices and environments that foster cheating in their classes. Teachers should encourage students to bring negative conditions or incidents of dishonesty to their attention. In their own work, teachers should practice the same high standards they expect from their students.

Administration Responsibility: As highly visible members of our academic community, administrators should be ever vigilant to promote academic honesty and conduct their lives in an ethically exemplary manner. This policy will be vigorously upheld at all times in this course.

This policy will be vigorously upheld at all times in this course.

Any instances of academic dishonesty will be reported to Student Judicial Affairs.

Evaluations:

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

Class Structure: This is a traditional lecture class. All material will be posted on e-learning so as to provide equal access to all students but the only way to be sure you have all material and information is to attend class daily.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Professional Etiquette: Use of technology (tablets and computers) is often required to engage in active learning opportunities. You will be informed in advance if these tools are necessary for class. In order to provide a productive environment conducive to everyone's learning, adherence to the following guidelines is expected:

- Technology should be used productively! If you feel like you might not be able to say no to baseball games, social media, texting or other content contained on your device, then put it away when we are working with technology! You are an adult who must be present daily both physically and mentally.
- Students are expected to be on-time for class. It is disruptive when students arrive late – not to mention disrespectful to myself and your fellow students.
- Leaving class early without prior permission is not tolerated; all material taught is important and missing even a small bit of it, is not fair to you or me who has spent hours preparing to teach you.

- Quizzes may be given at the beginning, middle or end of each class. Failure to be on time or leaving class early may result in a large penalty.
- You should avoid talking amongst each other once the lectures begin (this includes conversations about the material and the class itself). Please raise your hand if you have any questions or need me to repeat the material.
- You are welcome to record lectures and/or take pictures as long as this is not distracting to you, me or your classmates.

If you cannot comply with these simple expectations, you may be asked to leave the classroom and you will be counted as absent. The instructor reserves the right to penalize any student violating these rules by deducting points from the student's grade as appropriate.

Course Assignments:

In-class quizzes (best 10 of 13ish): There are review problems and exercises related to the course material posted on e-learning relating to the lecture material. While I will not be grading these assignments, there will be quizzes during the regular class times where I will test you over this material. In order to succeed in this course, you MUST practice. Quizzes ensure that you are prepared for class and are on track to pass exams. Missing a quiz results in a grade of 0. No make-up quizzes are given, even under excused absences as you are allowed no fewer than 3 drops.

Application projects (best 3 of 4): There will be four assignments that will require the use of excel to apply mathematical methods to economic problems. These should be typed and thorough. These are individual assignments and you must submit both your excel and word document online for full credit. Late submissions will be penalized 10 points per day late.

Midterm exams (2): Each exam will include multiple choice and long-answer questions related to assignments, readings and lectures.

Final Exam: A cumulative final will be given on Monday, December 10th at 3:00-5:00 pm in the regular classroom.

Composition of Final Score

Course Assignments	Total Points	% of Total Grade
In-class quizzes (best 10)	50 points (5 points each)	10%
Application project(s) (best 3 of 4)	150 points (50 points each)	30%
Midterm exams (2)	200 (100 points each)	40%
Final Exam (comprehensive)	100 points	20%
Total	500 points	100%

Student Evaluation: Grades will be assigned as follows (note no minuses will be awarded)

Grade	Percentage	Total Points	Grade Points
A	90.0% or more	≥ 450	4.00
B+	86.0 – 89.9%	430 – 449	3.33
B	80.0 – 85.9%	400 – 429	3.00
C+	76.0 – 79.9%	380 – 399	2.33
C	70.0 – 75.9%	350 – 379	2.00
D+	66.0 – 69.9%	330 – 349	1.33
D	60.0 – 65.9%	300 – 329	1.00
E	$\leq 59.9\%$	≤ 299	0.00

This class adheres to UF grading policies:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

**Please note that grades are not 'rounded' or 'adjusted' at the end of the term. Haggling over grades at the end of the semester is NOT entertained. Of course, if there is an error in recording a grade, I will gladly give you the correct points. If you believe that your exam is incorrectly graded or that your grade is incorrectly posted, please contact me via e-mail (i.e., in writing) as soon as possible. You have 7 days after the grade has been posted to voice your concern. After 7 days have passed, your posted grade will be assumed to be correct and accurate.

Academic Performance:

Your grade on e-learning throughout the semester may not reflect your true performance in the course. You will earn points for correct quizzes and exams throughout the semester and it is up to you to determine your progress in the course. It is my goal to teach students and not to "give grades" as I believe grades are earned. As such, consider the following guidelines when you have questions about your grade or class performance:

- If you have any questions about your score at any point, you may come to the professor during office hours to clarify the number of points you have and what points will be required to achieve your desired grade.
- Do NOT ask for clarification of your grade in class or after class. This type of discussion is reserved for office hours or email correspondence.
- Do NOT email me or come to office hours expecting to change your score on a given assignment unless an egregious error has been made in entering your grade into canvas (i.e. you failed to get credit for a completed assignment or an exam grade was entered incorrectly).
- Do NOT ask for additional points throughout the semester. It may be the case that bonus opportunities to gain additional points will be available; however, this is determined solely by the professor based on an assessment of the relevance of additional activities to course materials and learning objectives.

Course Topics:

This course is broken into two main sections: solving systems of equations and calculus. The course is cumulative in that the material builds on each other. While students are expected to have seen most material introduced in this course in previous courses, this course focuses on mastery of quantitative concepts and applications of quantitative concepts to the study of business and economic models. If at any point you do not understand the material, you must seek additional help from the instructor, teaching assistant or a tutor as mastery of the material at each section is required to move on to the next section.

Course Schedule:

Topic	Week	Lecture Material
Part 1: Solving Systems of Equations		
Equations and Graphs	1	Ch. 2
Functions	2	Ch. 3
System of Equations	3	Ch. 4
Elimination and Substitution	4	Ch. 4
Matrix Algebra	5	Ch. 5
Solving Linear Equations	6	Ch. 6
Economy-wide Modeling	7	Handouts
Exam Week	8	Midterm 1 Expected **October 10th**
Part 2: Calculus		
Linear programming	9	Ch. 8-9
Differential Calculus	10	Ch. 10
Uses of the Derivative	11	Ch. 10
Marginal Concepts in Economics	12	Ch. 10
Multivariate Calculus	13	Ch. 13
Optimization	14	Ch. 13
Constrained optimization	15	Ch. 13
Exam Week/Final Review	16	Midterm 2 expected **December 3rd**
Final Exam: Monday, **December 10, 2018** at 3:00 pm – 5:00 pm		

Dr. Sharp reserves the right to change the terms and dates stated in this course syllabus at any time. Any changes will be communicated in class, via the Gatorlink e-mail listserv, and posted on E-Learning. It is the student's responsibility to stay informed of any changes.

By enrolling in this course, you are agreeing to the terms outlined in this syllabus!!

I look forward to a fun and productive semester with you all!