

Fall 2016

Instructor: C. M. Staniunas

Math 111 Mathematical Models for the Management Sciences

Note: Students who have received credit for Math 112 or higher may not take this course. Students must receive a C or better in Math 111 or INQ 240 to declare a major in Business Administration.

Office: 161 D Trexler Hall

Office hours: MWF 9:40-1pm , TTh 11:45am-1pm

Phone: 375-2010, e-mail: staniuna@roanoke.edu

Course Objective: to provide the background in the quantitative techniques necessary to better understand more advanced courses in Business and Economics.

Learning Outcomes: Upon completing this course, the student will be able to:

- Solve linear equations in one or more variables
- Solve applied problems using linear equations
- Solve systems of linear equations using graphing, substitution, elimination, or matrix methods
- Solve quadratic functions and use them in applications
- Solve systems of linear inequalities in two variables
- Use graphical methods and the simplex method to solve linear programming problems
- Find the derivatives of functions
- Use derivatives in business applications

Text: Mathematical Applications for the Management, Life, and Social Sciences , tenth edition, by R. Harshbarger and J. Reynolds .

Calculator Requirement: All students will need a **graphing** calculator for this course, preferably a TI-83 or TI-84

Other electronic devices Turn off the cell phone. Shut the laptop. Put the iPod away.

Tentative Test Schedule

Test 1	Sept. 21
Test 2	Oct. 12
Test 3	Nov. 9

Final Exam Fri. Dec 16, 8:30 am

If illness or family emergency causes you to miss a test, notify me. You'll be expected to take it as soon as possible, preferably within 48 hours Also, please note that arrangements for extended time on testing in a distraction-reduced environment must be made at least one week *before every test*.

Subject Tutoring is an Internationally Certified Tutoring Center through the College Reading and Learning Association (CRLA). Our highly trained staff offers individual tutoring appointments for the following subjects: Business, Economics, Mathematics, Modern Languages, Lab Sciences & Social Sciences. Subject Tutoring is located on the lower level of Fintel Library in room 05 from 4-9 p.m. Sun.-Thurs. Students can logon to make an appointment at www.roanoke.edu/tutoring in 15, 30 or 45 minute intervals. For questions or concerns, please contact Shannon McNeal at 540-375-2247 or mcneal@roanoke.edu.

The Office of Disability Support Services (DSS), is located in the Goode-Pasfield Center for Learning and Teaching in **Fintel Library**. DSS provides reasonable accommodations to students with documented disabilities. To register for Disability Support Services, students must self-identify to the Office of Disability Support Services, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact JoAnn Stephens-Forrest, MSW, Coordinator of Disability Support Services, at 540-375-2247 or e-mail her at: stephens@roanoke.edu to schedule an appointment. If you have registered with DSS in the past, and would like to receive academic accommodations for this semester, please contact Ms. Stephens-Forrest at your earliest convenience, to schedule an appointment.

Grading Policy:

Homework and quizzes 15%
 Tests 20% each
 Final exam 25% it IS comprehensive
 Your final grade will be computed using the percentages above. Grades will be assigned thus:

A 93-100	B- 80-82	D+ 67-69
A- 90-92	C+ 77-79	D 63-66
B+ 87-89	C 73-76	D- 60-62
B 83-86	C- 70-72	F under 60

Attendance Policy: If you miss four hours of class after the add date, you may be dropped from the course OR have one point deducted from your final grade for each absence after four. If indulgence in alcohol causes you to miss more than one class, the number for AA is 343-685

You are expected to spend 12 hours per week working for this class (3 hours in class, 9+ hours outside of class).

One of your assignments will be to attend one of the MCSP colloquia and complete a reaction form about what you learned. I'll provide a schedule as soon as possible.

Academic Integrity: You are expected to be familiar with the Academic Integrity Code outlined in the booklet **Academic Integrity at Roanoke College**. In this class, you shall not cheat on tests or quizzes or collaborate on any assignment having the words "work independently" on it.

MATH 111 FALL 2016 TENTATIVE SCHEDULE

8/31	0.2-0.3	Real Numbers, Integral exponents
9/2	0.4-0.5	Radicals and Rational Exponents, Operations with Algebraic expressions
9/5	0.6	Factoring
9/7	0.7	Algebraic Fractions
9/9	7.5	Permutations and combinations
9/12	1.1-1.2	Linear equations and inequalities in one variable, Functions
9/14	1.2-1.3	Functions, Linear Functions
9/16	1.5	Solutions of systems of linear equations
9/19	1.5 review	
9/21	Test 1	
9/23	1.6	Applications of Functions in Business and Economics
9/26	2.1	Quadratic Equations
9/28	2.2	Quadratic Functions: parabolas
9/30	2.3	Business Applications of Quadratic Functions
10/3	2.4	Special Functions and their Graphs
10/5	2.4-3.1	Special functions and their graphs, Matrices
10/7	3.2	Multiplication of Matrices
10/10	review	
10/12	Test 2	
10/14	3.3	Gauss Jordan Elimination
Break		
10/24	3.3	Gauss Jordan elimination
10/26	4.1	Linear Inequalities
10/28	4.2	Linear Programming: Graphical Methods
10/31	4.3	The Simplex method
11/2	4.3	The Simplex method
11/4	4.3	The Simplex method
11/7	review	
11/9	Test 3	
11/11	9.1, 9.2	Limits, Continuous functions
11/14	9.3-9.4	The Derivative, Derivative formulas
11/16	9.5	The Product Rule and the Quotient Rule
11/18	9.6	The Chain Rule and the Power Rule
11/21		Review derivatives
		Thanksgiving
11/28	9.7	Using Derivative formulas
11/30	9.8, 9.9	Higher order Derivatives, Applications of derivatives in Business and Economics
12/2	10.1	Relative Maxima and Minima
12/5	10.2	Concavity and points of inflection
12/7	10.3-10.4	Applications (if time permits)
12/9	Review	
12/16	Final	Exam Friday, December 16 8:30-11:30 am

Expect to turn in homework every class day (except during weeks in which we have tests). If you miss class, have a friend deliver your homework to my office. You ARE allowed to help each other in doing ordinary homework problems from the book. You AREN'T allowed to help each other with quizzes, tests, or any assignment on which I have written "work independently." Homework is due the class period after it is assigned and homework **submitted after the keys have been posted will receive a grade of 0**. Students who wish to gamble by turning their work in after the due date, take note!

I expect you to **prepare** for the day's topic by reading your textbook and/or watching videos that I post as well as completing the pre-class problems!