Math 111 - Mathematical Models for the Management Sciences
Spring 2020

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Office Hours: $\quad$ By appointment: Monday - Thursday 2:45-4:00pm Make appointments online at jminton.youcanbook.me If necessary, other times arranged on case by case basis.

Be Aware: 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.

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

Intended Learning Outcomes: By the end of this course, successful students 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 pplications

## Course Materials:

Textbook: Mathematical Applications for the Management, Life, and Social Sciences, tenth edition by R. Harshbarger and J. Reynolds.
Calculator: All students will need a graphing calculator for this course, preferably a TI-83 or TI-84
Inquire course management system

## Attendance Policies:

Full attendance is expected. As stated in the Academic Catalog, "Every student is accountable for all work missed because of class absence. Instructors, however, are under no obligation to make special
arrangements for students who are absent." Also, anytime you come in late or leave during class you miss part of the course and you disrupt the educational experience for everyone else. Do this only in the case of emergency.
Overall Workload: In addition to the 3 hours of class time, you are expected to work outside of class for a minimum of 9 additional hours per week.

## Tests/Exams:

There will be 6 tests. Make-up tests will be given only under very extenuating circumstances that prohibit you from physically appearing in the classroom.
Dates for tests and the comprehensive final exam are listed on the Course Schedule (link on Inquire)

## Independent Practice:

Assignments from the textbook will be made following every class meeting. These will be posted on Inquire. Students must take responsibility to complete this work, check answers, and follow-up (in a timely fashion) with instructor and/or tutor as needed.

## Daily Grade:

At least one grade will be taken on each non-test day. These grades will be based on quizzes, work done outside of class that is specifically designated to hand in, or in-class worksheets. No make-ups are allowed for Daily Grade work, but the 3 lowest Daily Grades will be dropped.

Inquire Policy Students are required to be knowledgeable of all postings on Inquire. It is each student's responsibility to consistently monitor Inquire for course information. This means every day!

Any assignment that requires an Inquire upload will not be accepted in any other form. Also, to receive credit for uploads, the file must be readable on the instructor's college computer. It is the student's responsibility to make successful submissions. It is the student's responsibility to resolve technology problems through the college's IT department.

Academic Integrity The college policy is fully supported. All tests and quizzes will be closed book and closed

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## Electronic Devices

The use of any electronic device other than non-cellphone calculator during a quiz or exam is strictly prohibited. Exceptions will be clarified on a case by case basis. Any use of a nonapproved device during a quiz or exam will be considered a breach of academic integrity.

In-class use of cellphones/laptops/iPads/tablet computers is not permitted unless the instructor makes a specific exception for a particular class activity.

## Grading Policy

## Course Averages:

| Test Average | $60 \%$ | A $93-100$ | B- $80-82$ | D+67-69 |
| :--- | :--- | :--- | :--- | :--- |
| Daily Grade Average | $20 \%$ | A- $90-92$ | C+ $77-79$ | D $63-66$ |
| Final Exam | $20 \%$ | B+ 87-89 | C $73-76$ | D- $60-62$ |
|  |  | B $83-86$ | C- $70-72$ | F below 60 |

IMPORTANT TO NOTE: The Inquire gradebook will be used for grade STORAGE only. Inquire will not be used in this course to calculate your official course average. Students may view individual grades on Inquire, but averages found there should be ignored.

Note: Material, content, and scheduling are subject to change if deemed appropriate or necessary by the instructor.

# Math 111 - Spring 2020 Target Course Schedule 

## Dates

January 13- January 27

Wednesday, January 29

January 31 - February 10

Wednesday, February 12

February 14 - February 24

Wednesday, February 26

Friday, February 28

## Text Coverage

Section 1.1 Solutions of Linear Equations and Inequalities in one variable
Section 1.2 Functions
Section 1.3 Linear Functions
Section 1.5 Solutions of Systems of Linear Equations
Section 1.6 Applications of Functions in Business and Economics
TEST 1

Section 2.1 Quadratic Equations
Section 2.2 Quadratic Functions: Parabolas
Section 2.3 Business Applications using Quadratics
Section 2.4 Special Functions and Their Graphs
TEST 2

Section 3.1 Matrices
Section 3.2 Multiplication of Matrices
Section 3.3 Gauss-Jordan Elimination: Solving Systems of Equations
TEST 3

Class Exploration

## March 9 - March 18

Friday, March 20

March 23 - March 30

Wednesday, April 1

April 3 - April 15
(No class April 10)

Friday, April 17

Monday, April 20

Monday, April 27

Section $4.1 \quad$ Linear Inequalities
Section 4.2 Linear Programming: Graphical Methods
Section 4.3 Linear Programming: The Simplex Method

## TEST 4

Section 9.1 Limits
Section 9.2 Continuous Functions
Section 9.3 Rates of Change and Derivatives
Section 9.4 Derivative Formulas
Section 9.5 Product Rule and Quotient Rule
Section 9.6 The Chain Rule and Power Rule
TEST 5

Section 9.7 Using Derivative Formulas
Section $9.8 \quad$ Higher Order Derivatives
Section $9.9 \quad$ Applications: Marginals and Derivatives
Section 10.3 Optimization in Business and Economics
Section $7.5 \quad$ Permutations and Combinations
TEST 6

Review for Final Exam

FINAL EXAM 2:00-5:00

