

## Math 192 Course Content and Objectives

<b>COURSE CONTENT AND SCOPE</b> - <b>Lecture:</b> Outline the topics included in the lecture portion of the course ( <i>Outline reflects course description, all topics covered in class</i> ).	Hours Per Topic	<b>COURSE OBJECTIVES</b> - <b>Lecture:</b> Upon successful completion of this course, the student will be able to... ( <i>Use action verbs - see <a href="#">Bloom's Taxonomy</a> for 'action verbs requiring cognitive outcomes.'</i> )
Introduction to basic operations.	1	Perform computations on the home screen, adjust the display contrast, and set modes.
Graphing functions in two and three dimensions and graphing functions using polar coordinates.	3	Graph functions and format graphs. Define, perform computations with, and graph the greatest integer function, the exponential function, the logarithmic function, trigonometric functions, and inverse trigonometric functions. Graph functions given in terms of polar coordinates and parametric equations. Graph functions in three dimensions.
How to write programs and work with a library of programs.	2	Write programs using the program editor. Use basic commands to edit and write programs containing control structures, input/output commands, and variables.
Solving systems of equations using matrices.	1	Solve systems of linear equations using matrices. Solve systems of linear equations using Cramer's Rule.
Engineering applications.	4	Explore ballistics from mechanical engineering, loudspeaker design from electrical engineering, traverse computation from civil engineering, and column buckling from mechanical engineering.
Differentiation and integration.	2	Differentiate and integrate functions and graph differential equations.
Analyzing data using statistics.	2	Construct a frequency distribution table and a histogram for a set of data. Calculate 1-variable statistics for a set of data. Construct a box plot for a set of data. Draw a scatter diagram for a set of data.
Programming/calculation projects.	1	Projects vary depending on the student's mathematical background, examples include but are not limited to: Write a program to solve quadratic equations or find the arc length of the path of a basketball from the point where it leaves the player's hand to the point where it drops into the hoop.
Final examination.	2	Final examination.
<b>Total:</b>	<b>18</b>	
<b>Total Lecture Hours In Section I Class Hours:</b>	<b>18</b>	