**Math Analysis Course Outline Mr. Greg Mako**  
[www.mhhe.com/barnett](http://www.mhhe.com/barnett) [www.makomath.com](http://www.makomath.com)

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**Course Objectives**:

**Course Objectives:** Upon successful completion of the mathematical analysis course, the student should be able to:

* Solve equation symbolically, graphically, and numerically and know how to use the quadratic formula for solving quadratic equations
* Use matrices to solve systems of equations
* Evaluate f(x) for complex arguments
* Visualize objects, paths, and regions in space, including intersections and cross sections of three-dimensional figures, and describes these using geometric language
* Use and apply vector geometry
* Use coordinate geometry techniques to graph conic sections
* Graph polar and parametric coordinates and equations
* Determine the behavior of a function, its maximum and minimum, its interval and its critical points
* Use arithmetic sequences and geometric sequences and their sums, and sees these as the discrete forms of linear and exponential functions, respectively
* Define, use and manipulate expressions involving variables, parameters, constants, and unknowns in work with formulas, functions, equations, and inequalities
* Recognize, draw, and analyze graphs of trigonometric functions
* Organize, analyze, and display single-variable data choosing appropriate frequency distribution, circle graphs, line plots, histograms, and summary statistics
* Interpret representations of data, compare distribution of data, and critique conclusions and uses of statistics, both in school materials and public documents
* Explore questions of experimental design, use of control groups, and reliability
* Use matrix theory with graphics calculators to solve systems of equations, transformations, and finite functions
* Use and analyze trigonometric principles, properties, and laws
* Solve problems using the Law of Sines and Law of Cosines.

**Grading Policy**:

Mathematical knowledge will comprise the largest part of your grade; however, you will also be graded on your ability to apply, model, and communicate mathematical knowledge. Your report card grade will be based on a percentage of the total number of points earned in the following categories and weights:

Assignments, in Class 15%

Assignments, Out of Class 20%

Tests and Quizzes 50%

Materials: Check including notes in notebook 15%

Expect that **homework** will be assigned each class and will be due the following class. Most days there will be a homework quiz after questions. Homework will be attached to the quiz.

**Materials**:

• Text –Precalculus 7th Edition (McGraw Hill Com.) You will be financially responsible for lost or damaged books. A student copy costs $131.

• 4 new AAA batteries to replace the ones given in the TI 84+ calculator assigned

• Three ring binder, pencils, and colored pencils for graphing,

**Classroom Procedures/Rules:**

1. Be in class on time and with all necessary materials. Three times unprepared will result in referral to administration.
2. Respect the space, property, and ideas of others.
3. Use appropriate and positive language at all times.
4. Complete all assignments so that they are accurate, legible, and on time.
5. Actively participate in class.
6. Follow all schools rules (see the Lancer Handbook in your planner).

**Make-up Work:**

It is YOUR responsibility to get your make-up work. Assignments are posted on [www.makomath.com](http://www.makomath.com)

Quizzes and Tests will be made up during seminar, before or after school. **There is a one week deadline for making up Quizzes and Tests**. **After the deadline has passed, a grade of zero (0) for that assignment or assessment will be entered.** The week begins with the first day back from an absence after the quiz or test. Extended absences and special cases will be handled on an individual basis. **Absence from a class that is the review for an exam/quiz DOES NOT exclude the student from taking that exam/quiz.**