MATHEMATICS 1090
ALGEBRA AND TRIGONOMETRY

Have you ever wondered about whether the equation $3x^4 - 11x^3 + 23x^2 - 21x - 10 = 0$ has any integer solutions, or for that matter any solutions at all?
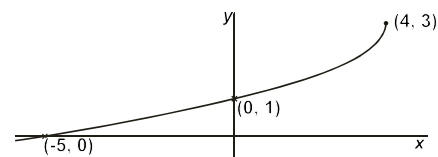
The complex truth is that the equation above has solutions $x = 2$, $x = -\frac{1}{3}$ and $x = 1 \pm 2i$.

How about the equation $1 + \cos 2\theta = -\cos\theta$?

In Mathematics 1090 you will learn that the solutions for this equation, in the interval $[0, 2\pi)$ are
$$\theta = \frac{\pi}{2}, \frac{3\pi}{2}, \frac{2\pi}{3} \text{ and } \frac{4\pi}{3}$$

In mathematics courses beyond 1090 a very useful skill will be the ability to recognize that the function $f(x) = 3 - \sqrt{4-x}$ has the graph on the right. This is one of the many graphs that students in 1090 will be expected to know how to sketch for the final exam.

The course has been designed to prepare students to deal successfully with differential and then integral calculus that will be a necessary part of their education in science.

Text. The text currently in use for regular sections is *Algebra and Trigonometry*, Fourth Edition. This is an abridgement of *Precalculus*, Fourth Edition by Robert Blitzer (Pearson).

Marks. While the exact formula may vary from semester to semester, it is typical to assign 60% of the final grade in this course to a two-hour final examination. The remaining 40% is based on a combination of (usually) two term tests and several assignments.

Calendar Description. **1090 Algebra and Trigonometry** provides students with the essential prerequisite elements for the study of an introductory course in calculus. Topics include algebra, functions and their graphs, exponential and logarithmic functions, trigonometry, polynomials, and rational functions. Four hours per week.
Prerequisite: A combination of placement test and high school Mathematics scores acceptable to the department or Mathematics 104F.
Note: Students will not receive credit for Mathematics 1090 if they have previously received credit or are currently registered for Mathematics 1000, 1001, the former 1080, or the former 1081.

Offered. Fall, Winter, Spring.