**ACC Calculus Syllabus**

**Fall 2015**

**Course Overview**

ACC Calculus is meant to address the same material as one would experience in the first semester of a university college course. Topics include limits, derivatives, optimization, related rates, integrals, and applications of each. The textbook used for this course is Calculus: Graphical, Numerical, Algebraic AP Edition by Ross Finney, Franklin Demana, Bert Waits, and Daniel Kennedy. The outside reading for the course is Calculus of Friendship by Steven Strogatz.

All students are **required** to have an approved calculator for use in class. Calculator sharing will not be allowed on quizzes and tests and may be necessary for some problems. Recommended are the TI-83, TI-84 (any edition), or TI-nSpire calculators. Other calculators may be used, but students should check with the teacher.

**Prerequisites**

The class assumes proficient completion of Analysis and an understanding of many algebraic, trigonometric, and geometric topics. Students must be comfortable solving algebraic equations and have a good knowledge of basic definitions and terms from all courses leading up to this course (Algebra I and II, Geometry, and Analysis).

**Teaching Methods**

Students will often be asked to explain their reasoning in solving problems. This can be in paragraph form, in the style of a proof, or in talking in groups or pairs with peers. Proper vocabulary and understanding of concepts are stressed in these explanations.

To get at the basic concept of derivatives, we will look at simple functions such as cubics, sine, and exponential graphically and plot sample points of the derivative function by estimating the tangent slope. Sketches of derivatives can lead to a discussion of derivatives as functions themselves.

**Course Content**

* Relating functions to physics, other sciences, and other areas of study (eg business).
* Understanding rates of functions
* Finding derivatives of functions using limits and other derived rules
* Elementary integration; Fundamental Theorem of Calculus; applications of integration

**Student Evaluation**

A student’s grade will be determined by total points. The score for the semester can be calculated by adding up the total points earned and dividing that by the total points possible.

Assessments will be a mix of calculator and non-calculator sections to show proficiency with understanding the material.

Students in ACC Calculus will receive, essentially, two letter grades for the same semester score. The first will be the score that follows St. John Vianney’s traditional scoring policy. This score will go on the student’s transcript as usual. The student will also receive a letter grade based on the college scoring scale that will be used to assess whether the student meets the requirements to obtain college credit through Drury University. More information about this will be passed on at a later time.