COURSE SYLLABUS

Course Title:	Calculus II	**Date submitted:**	Spring 2014 (AAC: 14-92)
Department:	Mathematics & Science		
Curriculum:	Mathematics		

Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	MAT*256
Course Type:	L

A: Clinical   B: Lab   D: Distance Learning
I: Individual/Independent   L: Lecture   N: M: Seminar Internship
P: Practicum   U: Studio
X: Combined Lecture/Lab   Y: Combined Lecture/ Clinical/Lab   Z: Combined Lecture/Studio

Elective Type:	G/LAS/M

AH: Art History   E: English   FA: Fine Arts   FL: Foreign Language
G: General   HI: History   HU: Humanities   LAS: Liberal Arts & Sciences M: Math   S: Science   SS: Social Science

Credit Hours:	4
Developmental: (yes/no)	No

Contact Hours:

Lecture:	4
Clinical:	0
Lab:	0
Studio	0
Other:	0
TOTAL:	4

Class Maximum:	30
Semesters Offered:	F/S

Prerequisites:

C- or better in Calculus I (MAT*254)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:	A continuation of Calculus I. The logarithmic and exponential functions along with their derivatives and integrals, models of growth and decay. Inverse trigonometric and hyperbolic functions, their derivatives, integrals. Further techniques of integration, indeterminate forms and improper integrals. Infinite series and power series representation of functions. Topics from analytic geometry including rotation of axes.
Topical Outline: List course content in outline format.	1. Logarithmic and Exponential Functions 2. Inverse trigonometric and hyperbolic functions 3. Techniques of Integration 4. Indeterminate Forms and Improper Integrals 5. Infinite Series 6. Topics from Analytical Geometry
Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as	**Upon successful completion of this course, the student will be able to do the following:** **COURSE:** 1. apply the laws of derivatives and integrals to exponential, logarithmic, inverse trigonometric and hyperbolic functions

evidence that they have mastered the course content.	2. analyze indeterminate forms, and apply L'Hospital's Rule 3. apply the following techniques of integration: by parts, trigonometric, trigonometric substitution, partial fractions, improper integrals 4. apply theories of integration to arc length, area of a surface of revolution 5. use parametric equations and polar coordinates, including areas and arc lengths and conic sections 6. work with finite and infinite sequences, including tests of convergence (integral test, comparison tests, alternating series tests, ratio/root tests) 7. rewrite functions as power series and use Taylor, Maclaurin and the Binomial Series accurately and appropriately
	PROGRAM: *(Numbering reflects Program Outcomes as they appear in the college catalog)*

	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)*
	
	7. **Quantitative Reasoning -**Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.
	
	  Demonstrates: Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.
	
	  Does Not Demonstrate: Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.

Evaluation: List how the above outcomes will be assessed.	**Assessment will be based on the following criteria:** Teacher-produce quizzes, tests, exams and projects as assigned
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	Required: None Desired: None
Textbook(s)	Refer to current academic year printout.