

COURSE OUTLINE

Revision: O. Shatunova and R. Downs, April 2008

DEPARTMENT:	Academic Programs
CURRICULUM:	Mathematics
COURSE TITLE:	Pre Calculus II
COURSE NUMBER:	MATH& 142
TYPE OF COURSE:	Academic transfer
Special Requirement Met:	QSR
AREA(S) OF KNOWLEDGE:	The Natural World: Science, Technology, and the Environment/ The Language of Science; Basic Requirements - Math
COURSE LENGTH:	1 quarter
CREDIT HOURS:	5
LECTURE HOURS:	55
LAB HOURS:	0
CLASS SIZE:	35
PREREQUISITES:	Math& 141 with a 2.0 or better or appropriate placement score.

COURSE DESCRIPTION:

A study of trigonometric functions, analytic geometry and trigonometry, applications, polar coordinates, vectors and complex numbers and other topics important for Calculus.

MATH 142 Pre Calculus II
April 2008

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Computation – Identify, interpret and utilize higher level mathematical and cognitive skills (four those students who choose to move beyond the minimum requirements as stated above.)
2. Communication – Read and listen actively to learn and communicate.
3. Critical Thinking and Problem Solving – Think critically in evaluating information, solving problems and making decisions.
4. Technology – Select and use appropriate technological tools for personal, academic and career tasks.

GENERAL COURSE OBJECTIVES:

Upon successful completion of this course the student will be expected to:

1. Understand, graph and be able to use trigonometric functions.
2. Solve triangle problems using the Law of Sines and Cosines.
3. Use trigonometric identities to solve problems.
4. Understand vectors and solve elementary problems involving vectors.
5. Use polar coordinates and graph polar equations.
6. Graph parametric equations.
7. Write complex numbers in polar form and find roots and powers of complex numbers.
8. Know when and how to use technology, such as graphing calculators, and to accomplish the above objectives.

TOPICAL OUTLINE:

APPROX. HOURS 55

- I. Trigonometric functions
- II. Analytic trigonometry (identities)
- III. Analytic geometry (rotated conics and parametric equations)
- IV. Applications of trigonometric functions
- V. Polar Coordinates, vectors and the complex plane.

REVISED BY: O. Shatunova and R. Downs
DATE: April 2008

MATH 142 Pre Calculus II
April 2008

SLO #	Included in Course Objective Number	SSCC Student Learning Outcomes
SLO 1.1	1 – 8	Communication - Read and listen actively
SLO 1.2		Communication - Speak and write effectively
SLO 2.1	1 – 8	Computation - Use mathematical operations
SLO 2.2	1 – 8	Computation - Apply quantitative skills
SLO 2.3	1 – 8	Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills
SLO 3.1		Human Relations - Use social interactive skills to work in groups effectively
SLO 3.2		Human Relations - Recognize the diversity of cultural influences and values
SLO 4.1	1 – 8	Critical Thinking and Problem Solving -
SLO 5.1	1 – 8	Technology - Select and use appropriate technological tools
SLO 6.1		Personal Responsibility - Be motivated and able to continue learning and adapt to change
SLO 6.2		Personal Responsibility - Value one's own skills, abilities, ideas and art
SLO 6.3		Personal Responsibility - Take pride in one's work
SLO 6.4		Personal Responsibility - Manage personal health and safety
SLO 6.5		Personal Responsibility - Be aware of civic and environmental issues
SLO 7.1		Information Literacy - Access and evaluate information
SLO 7.2		Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society

PREPARED BY: O. Shatunova and R. Downs
DATE: May 2008