

**NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE**

COURSE:	PREFIX NO.	EFFECTIVE DATE	NEXT REVIEW DATE		
MAT	111	Fall 2010	Fall 2011		
TITLE:	CREDITS	CONTACTS			
		CLASS	- LAB	- TOTAL	
College Trigonometry	3	3	0	3	

PREREQUISITES: Acceptable placement score or MAT 110 with grade of "C" or better

DESCRIPTION: This course includes the following topics: trigonometric identities; solution of right and oblique triangles; solution of trigonometric equations; polar coordinates; complex numbers, including Demoivre's Theorem; vectors; conic sections; and parametric equations. (Prerequisite: College Algebra)

TEXTBOOK(S) OR ALTERNATIVE: Algebra and Trigonometry, 4th edition by Blitzer. Pearson.

MATERIALS (specifying those to be purchased by student): Graphing and/or scientific calculators are required.

COLLATERAL READING:

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):

ACADEMIC DISHONESTY: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for a definition of academic dishonesty and an outline of the disciplinary action that may result.

ATTENDANCE: Students are expected to attend all scheduled classes and are responsible for all class work, homework, notes, etc., whether or not they are present. In the event of extenuating circumstances, such as illness, the student is allowed to miss up to 8 hours. The student will be dropped after missing more than 8 hours of scheduled classes. If an instructor drops a student for excessive absences at any time during the semester, a grade of "F" will be assigned. If the student withdraws from the course, a grade of "W" or "WF" will be assigned as outlined in the college catalog. There is no such thing as an excused absence! If you exceed the allowed number of absences, you will be dropped.

TARDIES: A student is considered tardy if he/she is not present for roll call, which is taken at the beginning of class. Three tardies

constitute one (1) hour of absence.

CLASSROOM ETIQUETTE:

1. Electronic communication devices (pagers, cell phones, etc.) are not allowed in the classroom. On-call emergency personnel should see the instructor for an exemption.
2. No visible food or drinks are allowed in the classroom.
3. No radios or headphones are allowed in the classroom.

MAKE-UP TEST PROCEDURE: No make-up tests are given except in extenuating circumstances. The student is responsible for contacting the instructor **prior** to the time the test is scheduled to arrange a meeting to discuss the process of making up the missed test.

STUDENT ID: It is mandatory that every student wear his or her student ID at all times. During the first week of classes, the instructor will issue a reminder to wear the ID. This reminder is a warning.

After the first week of classes, instructors are required to dismiss students without ID from class. The student may get his/her ID (or a new one in Student Services for \$3.00) and return to class before the midpoint of the class. If the student cannot get his/her ID and return to class by midpoint, the instructor will record the absence.

DISABILITIES STATEMENT: Students with disabilities are encouraged to contact the Dean of Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Dean of Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See College Catalog)

RESOURCES (A-V, persons, tools/equipment): Computerized instruction on selected topics and video taped lecture materials are available in the Student Success Center. Ask your instructor for details.

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

TENTATIVE CLASS OUTLINE

WEEK **CHAPTER** **DESCRIPTION**

1-6 5 *Trigonometric Functions*

- 5.1 *Angles and Radian Measure*
- 5.2 *Right Triangle Trigonometry*
- 5.3 *Trigonometric Functions of Any Angles*
- 5.4 *Trigonometric Functions of Real Numbers*

- 5.5 *Graphs of Sine and Cosine Functions*
- 5.6 *Graphs of Other Trigonometric Functions*
- 5.7 *Inverse Trigonometric Functions*
- 5.8 *Applications of Trigonometric Functions*

7-11 6

Analytic Trigonometry

- 6.1 *Verifying Trigonometric Identities*
- 6.2 *Sum and Difference Formulas*
- 6.3 *Double- and Half-Angle Identities*
- 6.4 *Product to Sum and Sum to Product Formulas*
- 6.5 *Trigonometric Equations*

COURSE TOPICAL OUTLINE: (Continued)

WEEK CHAPTER DESCRIPTION

12-15

7

Additional Topics in Trigonometry

- 7.1 *The Law of Sines*
- 7.2 *The Law of Cosines*
- 7.3 *Polar Coordinates*
- 7.4 *Graphs of Polar Equations*
- 7.5 *De Moivre's Theorem*

10

Conic Sections and Analytic Geometry

- 10.1 *Ellipse*
- 10.2 *Hyperbola*
- 10.3 *Parbola*

11

Sequences, Induction, and Probability

- 11.1 *Sequences and Summation Notation*
- 11.2 *Arithmetic Sequences*
- 11.3 *Geometric Sequences and Series*

College Wide Competencies: Apply mathematical/computational skills to solve problems.

Student Learning Outcomes: The student will be able to solve right and oblique triangles; trigonometric and parametric equations; prove trigonometric identities; and perform operations with vectors, conic sections and complex numbers.

GENERAL EDUCATION OUTCOME: Graduates will be able to:

1. use a systematic approach to solving problems.

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES: Lectures covering course topics will be supplemented by exercises to be completed outside of class. Emphasis will be placed on problem solving techniques and understanding underlying theory.

EVALUATIVE METHODS TO APPRAISE OBJECTIVES: Chapter or topical tests will be used to compute your final grade for MAT 111. If a final exam is given, it will count 20% of the final grade; the remaining 80% will be the average of other tests given during the term. If no exam is given, the final grade will be the arithmetic average of all tests given. The lowest test grade will not be dropped even if a final exam is given.

GRADING SCALE:

100 - 93 = A

92 - 85 = B

84 - 77 = C

76 - 69 = D

BELOW 69 = F