

Collegewide Course Outline of Record
MATH 137 at Castle High School
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Course Title: Math College Credit/Trigonometry

Course Number: MATH 137

Prerequisite: Pass score on Accuplacer

School: Liberal Arts and Sciences

Program: Liberal Arts

Credit Hours: 3 – This course will span 4 quarters.

Contact Hours: Lecture: 135 hours (5 hours per week)

Date of Last Revision: May 2015

Effective Date of This Revision: Fall 2015

Dual credit class:

The course runs concurrently with the Math College Credit/Trigonometry class at Castle High School. The work for Math 137 will be completed during the 2nd semester. When the course work is completed, the students enrolled in Math 137 (dual credit) will take Ivy Tech's final examination for Math 137. The grade earned by the student for Math 137 will have counted the grade on the Math 137 final at least 20% of the total grade. It is possible that the grade received in Math 137 would be different than that earned in Math College Credit/Trigonometry at Castle High School.

Course description:

Trigonometry is a course that is designed for those students who have completed Algebra 2, Advanced Algebra 2, or Honors Algebra 2 at Castle High School with a C+ or above. Students enrolling in this course are serious about their preparation for subsequent work in science and mathematics. It also provides a suitable foundation upon which to build more advanced mathematical concepts and techniques. The conduct of the class and the methods of evaluation will begin to prepare the student for future college work. Topics to be emphasized include right triangle trigonometry, oblique triangles, vectors, graphs of trigonometric functions, trigonometric identities and equations, complex numbers in rectangular and polar form, rectangular and polar coordinates, and conics.

Major Course Learning Objectives: Upon successful completion of this course the student will be expected to:

1. Convert between degree measure and radian measure.
2. Find trigonometric function values of any angle in radians and degrees.
3. Solve right triangles.
4. Solve oblique triangles using laws of sine and cosine.
5. Use and apply properties of vectors.
6. Graph trigonometric functions.
7. Utilize trigonometric identities.
8. Solve trigonometric equations.
9. Convert between rectangular and polar coordinate systems.
10. Apply the properties of complex numbers in rectangular and polar forms.

11. Determine the features of a conic section from a standard equation.
12. Graph circles, parabolas, ellipses, and hyperbolas.
13. Use the above principles to solve practical applications.
14. Use a scientific and/or graphing calculator proficiently as related to coursework.
15. Use computer technology which may include the Internet, the Web, e-mail or computer tutorials to enhance the course objectives.

Course Content: Topical areas of study include:

Complex Numbers	Right and oblique triangles
Angles and trigonometric functions	Vectors
Graphs of trigonometric functions	Trigonometric equations and identities
Rectangular and polar coordinates	Conics

Assignments:

Assignments will be made regularly. In order to be successful in this course, you will need to do the assignments daily. These assignments should take approximately 45 to 60 minutes to complete. Class discussions and lectures will soon be of little value to you if not followed up with homework.

Supplies Required:

Text: Trigonometry, Eighth Edition
 Larson
 Brooks/Cole Publishing Company

Calculator: TI-83, TI-83 PLUS, TI-84 (any edition)

Earning college credit:

To earn college credit for this dual credit course all paperwork must be completed and the student must pass the Ivy Tech Math 137 Final Exam with a C or higher. A student must satisfactorily pass the Ivy Tech Math 137 final exam to earn 3 college credits. Those credit hours will transfer in as elective credits. Students will earn 2 credit hours in math at Castle High School upon a passing grade in Math College Credit/Trigonometry. The grade in Math 137 and the grade in Math College Credit/Trigonometry may potentially be different.

Academic Honesty Statement:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

Copyright Statement:

Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other

proprietary rights of others and that the materials used and developed at Ivy Tech Community College contain nothing unlawful, unethical, or libelous and do not constitute any violation of any right of privacy.

ADA Statement:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.