

CORNING COMMUNITY COLLEGE
(Horseheads High School ACE)
STEM
Fall 2016

Course Prefix/Number: Math1610, Calculus I

Instructor Name: Anthony Bo

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Instructor Office Location: Horseheads High School – Room 217

Instructor Office Hours: Monday – Friday: Period 5/6.

Course Description:

The first semester of differential and integral single variable calculus. Basic theory using algebraic and trigonometric function and applications are covered concurrently. Topics include limits, derivatives, considered by algebraically and graphically, differentials and their use as approximations, the indefinite and definite integrals with applications to areas, volumes, surface area, arc length, moments and center of mass. (4 cr. hrs.)

Prerequisite: *Four years of high school math, including pre-calculus, or either MATH 1411-1412 or MATH 1413. Cannot receive credit for this course and MATH 1510-1520.*

Text Book:

Larson, Ron, and Robert Hostetler, and Bruce Edwards. Calculus of a Single Variable, 10th edition. Boston, MA: Houghton Mifflin, 2006.

Calculator:

A graphing calculator is required. TI-83/84 is highly recommended. Calculators with Computer Algebra Systems are NOT allowed (TI 89, TI 92 etc).

Course Objectives:

- Demonstrate understanding of the definitions of limit, continuity, derivative, and the definite integral
- Determine limits of functions algebraically, numerically, and graphically
- Determine the derivatives of algebraic and trigonometric functions involving sums, differences, products, quotients, and compositions
- Solve application problems involving the derivative
- Determine indefinite integrals of basic algebraic and trigonometric functions
- Solve application problems involving the definite integral
- Use a Computer Algebra System (CAS) to solve application problems involving limits, derivatives, and integrals

Course Expectations:

This is a college level course and will be taught as such. In order to successfully meet the objectives of the course it is expected that students will take on certain responsibilities. These responsibilities include, but are not limited to:

- Keeping a neat and complete notebook
- Attending every class
- Completing every assignment
- Seeking out additional help beyond that provided during class
- Maintaining the highest degree of academic honesty

Homework & Board Problems:

A homework assignment sheet will be provided at the beginning of each unit. Each assignment will consist of a varying quantity of odd numbered exercises from the text book in addition to 4 daily "Board Problems".

Homework will be collected and graded. Exercises will be considered incomplete if no work is provided.

It is the students' responsibility to ensure that homework is done completely and correctly. Due to limited class time, the discussion of solutions to the odd numbered problems will be minimal. Therefore, it is expected that students will seek help outside of class for the odd numbered problems.

Four Students will be selected at random at the beginning of class to provide solutions to the "Board Problems". A separate grade will be given at the end of each marking period based on board problem participation.

Tests & Quizzes:

Quizzes will be given regularly and they may be unannounced.
A unit test will be given at the end of each unit.

Competency Assessments:

Competency assessments will be given through out the course. There are three types: Component Competency, Final Exam Competency, and Lab Competency. Details on each type of competency can be found on the "Competency Assessment" handout.

Final Exam:

A three hour final exam will be administered at the end of the course. **The exam will take place on the first day of Regents testing.** The final exam will consist of one section created by CCC and two additional sections created by the HHS math department.

Grades:

Tests	60%
Quizzes	25% (<i>minimum 3 quizzes given = lowest quiz grade dropped</i>)
Homework/Labs	10%
Board Problems	5%

Final Course Grade: Average of 4 marking period grades + 1 final exam grade.
A separate letter grade will be also be given for students registered through CCC.

Academic Honesty:

Academic dishonesty and cheating will not be tolerated. Students are expected to follow the academic honesty guidelines set forth by Horseheads High School. Disciplinary actions for cases of cheating and plagiarism will be handled in accordance with Horseheads High School policy.

Additional Help:

I am available for additional help during my lunch period and after school. Students wishing to meet with me after school should make arrangements with me in advance. My teacher web page, which can be accessed through the Horseheads High School web site, contains links to a variety of additional calculus resources.