| Item #6435 | Math 148 in Winter 2011 | Item #6437 |
|---|---|---|
| 9am in 17-107 | Elements of Calculus | 11am in 17-107 |


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**Office Hours**: 10 – 10:50am M - Th (in my office) and noon in the MRC (26-319H).
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**Course Description**: (5 credits) Informal and intuitive approaches to topics in calculus and general problems applying differentiation and integration to business and other fields. Especially for students majoring in a non-science area.

**Course Objectives**: *The student will be able to …*

- Determine the existence of, estimate numerically and graphically, and find analytically (algebraically) the limits of functions, including infinite limits and limits at infinity.
- Determine the continuity of functions at a point or on intervals.
- Compute the derivative of a function using the limit definition (linear and quadratic) and derivative theorems (polynomial, exponential, and logarithmic).
- Interpret the derivative as a rate of change and as a slope of a tangent line and apply derivatives to business concepts (e.g., marginal cost, marginal revenue, marginal profit, and elasticity) using everyday language.
- Determine absolute extrema on a closed interval for continuous functions and use the first and second derivatives to analyze and sketch the graph of a function.
- Accurately describe the important quantities, variables, and relationships (including units of measure) in a given application, using function notation appropriately.
- Solve applied optimization problems.
- Find antiderivatives for functions used in business and other fields, and interpret the meaning in everyday language
- Understand and apply the Fundamental Theorem of Calculus using examples from business and social science (e.g., area under the marginal cost or marginal revenue curve, consumer surplus and producer surplus).
- Apply at least one numerical method (e.g., Simpson's rule or the trapezoid rule) to compute the area under a curve.

**Text**: *Mathematical Applications*, 9th edition, Harshbarger and Reynolds. Bring the book to class.

**Prerequisite**: Math 111 with a minimum grade of 2.0 or COMPASS college algebra score of 51.

**Calculators**: A graphing calculator is required for this course.

i. The TI-83/4 family of calculators is recommended. The use of symbolic calculators such as the TI-89 and TI-92 will not be allowed during exams. Furthermore, the use of all calculators may be prohibited during some exams (forewarning will be given).

ii. Calculators may be rented from the math department on a first come first serve basis. To rent a calculator, pay the rental fee at the cashier in building 6 and then submit the form to the circulation desk at the library (bldg 25).

**Homework**: The format and grading criteria for homework is as follows.

i. **Enhanced Web Assign:** Graded homework will be administered online thru EWA. The website is: https://www.webassign.net/login.html

ii. **EWA Class Key:** highline.cc.wa 9783 7940

iii. **Many submissions:** You may make up to five submissions on most problems.

**Tests**: There will be three tests given during the quarter.

i. The exams will be cumulative, but will emphasize the material covered since the last test.

ii. If you miss a test, a score of 0% will be assigned. All tests must be taken during the scheduled class time. *No make-up tests*.

iii. Spoken and written communication as well as sharing of calculators during exams is prohibited.

**Final Exam**: A comprehensive final exam will be held in the regular class meeting room. The dates and times for the finals are listed in the quarterly. The final exam is mandatory and a grade of 0.0 may be assigned at the instructor's discretion to those who fail to take the final exam.

**Grading**: Homework: 10%, Exams: 60%, Final Exam: 30%. GPA's will be given according to:

| 95-100% | 4.0 | **%%%** | **GPA** | **%%%** | **GPA** | **%%%** | **GPA** | **%%%** | **GPA** |
|---|---|---|---|---|---|---|---|---|---|
| 93-4% | 3.9 | 81% | 3.1 | 73% | 2.3 | 65% | 1.5 | 57% | 0.7 |
| 91-2% | 3.8 | 80% | 3.0 | 72% | 2.2 | 64% | 1.4 | 56% | 0.6 |
| 89-90% | 3.7 | 79% | 2.9 | 71% | 2.1 | 63% | 1.3 | 55% | 0.5 |
| 87-8% | 3.6 | 78% | 2.8 | 70% | 2.0 | 62% | 1.2 | 54% | 0.4 |
| 85-6% | 3.5 | 77% | 2.7 | 69% | 1.9 | 61% | 1.1 | 53% | 0.3 |
| 84% | 3.4 | 76% | 2.6 | 68% | 1.8 | 60% | 1.0 | 52% | 0.2 |
| 83% | 3.3 | 75% | 2.5 | 67% | 1.7 | 59% | 0.9 | 51% | 0.1 |
| 82% | 3.2 | 74% | 2.4 | 66% | 1.6 | 58% | 0.8 | 0-50% | 0.0 |

**Policies and Notes:**

i. **Attendance**: You are responsible for all material covered in class including all announced changes to the schedule and assigned course work. (If you miss class, *you* are still responsible for everything in class).

ii. **Cell Phones**: The use of cell phones, pagers, and palm pilots in class is strictly prohibited. Failure to comply may result in your removal from the classroom.

iii. **Tutor Center**: Individual and group mathematics tutoring is available at the *Math Resource Center*. The *MRC* is located in building 26, room 319.

iv. **Math Resource Center**: Math materials, study space, and conceptual (vs problem specific) math help is available in 26-319H. Some of my office hours will take place in the MRC.

v. **Academic Dishonesty**: Cheating, plagiarism, and other forms of academic dishonesty are unacceptable at Highline Community College and may result in lower grades and/or disciplinary action. It is both your right and responsibility to be familiar with the document entitled: Student Rights and Responsibilities code WAC 1321-1210 adopted by the Board of Trustees of Community College District 9 on July 9, 1992. This is available in the counseling center.

vi. **Special Concerns**: If you have any special concerns about this class, please talk to me personally in my office. The more I know about you individually, the more I can help you be successful in this course. If you need course adaptations or accommodations because of dis-Ability; if you have emergency medical information to share with me; or if you need special arrangements in case the building must be evacuated, please provide me with the Letter of Accommodation you have received from the Office of Access Services. Access Services is located in Building 6 in the Student Development Center.

vii. **Important Dates**: *April 20th*: last day to drop without incurring a "W." *May 31st* last day to withdraw.