

Math 241, Calculus for Business and Social Science I, Winter 2018

Class time: MW 8:30-9:50am in 156 Straub
Instructor: Marcin Bownik
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Office Phone: 541-346-5622
Office Hours: M10-11am, Tu1-2pm, W3-4pm, F9-10am
Office: 323 Fenton
Textbook: *Calculus For Business, Economics, and the Social and Life Sciences Brief 11th Ed.* by Hoffmann, Bradley, Sobeki, Price.

1. Learning Outcomes: A successful student can:

- use supply, demand, revenue, cost, and profit terminology in constructing and evaluating functions
- graph linear and quadratic functions, with the assistance of technology at instructor discretion
- construct linear and non-linear function models from written descriptions, including statements of proportionality
- find one-sided and two-sided limits using numerical, algebraic, and graphical strategies
- identify continuity of a function given as a formula or graph
- use the definition to find the derivative of a function as a formula or at a point
- find the equation of a tangent line to a function at a point
- interpret the derivative as a rate of change
- compute derivatives using short cut rules including power, product, quotient, and chain rules
- find instantaneous rates of change for polynomial, rational, exponential, and logarithmic functions
- compute and interpret the second derivative
- compute relative and percentage rates of change in a function at a point
- use marginal analysis to approximate changes in a function using the derivative
- identify intervals of increase, decrease, concave up, concave down, as well as the location of critical and inflection points for a function
- identify the location(s) of any horizontal or vertical asymptotes for a rational, exponential, or logarithmic function
- use the derivative find absolute extrema in mathematical and non-mathematical contexts

Most importantly, the student can model the mathematical topics described among the learning outcomes in words, then solve or simplify the relevant equations and/or expressions, and finally write a summary statement of the solution.

2. **Homework:** There will be online homework assignments each week. You will be able to access WeBWork by going to <http://webwork.uoregon.edu/> and then choosing the math 241 section corresponding to your discussion leader's name. Webwork will be due each week on Sunday at 11:59pm.
3. **Quizzes:** There will be weekly quizzes held during your discussion sections. Quizzes are meant to test understanding of the material from the last few classes. There will be no make-up quizzes, since the lowest quiz score will be dropped.
4. **Exams:** There will be two in-class 50-minute midterm exams scheduled for week 4 and week 7. Both midterm exams will be taken during your discussion section. The comprehensive final exam is scheduled for **Wednesday, March 21, 10:15–12:15**.

The exam dates and times are not negotiable and there will be no make-up exams or quizzes. No late homework will be accepted. In case of illness, or a conflict with a sanctioned university activity or event, special arrangements will be made.

5. **Grading:** The grading distribution will be as follows:

Webwork	10%
Quizzes	10%
Midterm 1	20%
Midterm 2	20%
Final Exam	40%

6. **Recommended Calculator:** A scientific calculator or graphing calculator is recommended. However, there may be assignments or tests which prohibit the use of the calculator. The TI-30X IIS or TI-83/84 is recommended, but many other types are just as good.
7. **Outside help:** You will have access to me and the Graduate student discussion leaders during my office hours each week. Additionally, we recommend that you also use the free tutoring and help available in the University Teaching and Learning Center (TLC). They are located at 68 PLC Hall which is on the ground floor. You can learn more about these services at <http://tlc.uoregon.edu>
8. **Accomodations:** *If you are a student with a documented disability please meet with me soon to discuss your needs. If you have not already requested a notification letter from Disability Services outlining recommended accommodations, please do so soon.*

I have included below a very rough schedule we will be following this quarter. The exam dates are fixed but the speed at which we move through a particular chapter or portion of a chapter may vary from the schedule.

Tentative Schedule and important dates

Week	Chapters covered	Important events
1	1.1–1.4	No Quiz
2	1.5–1.6	Quiz 1, No class on Monday due to MLK
3	2.1–2.2	Quiz 2
4	2.3–2.4	Midterm 1
5	2.5–2.6	Quiz 3
6	3.1–3.2	Quiz 4
7	3.3–3.4	Midterm 2 , last date to drop on Feb. 25
8	3.5	Quiz 5
9	4.1–4.3	Quiz 6
10	4.4	Quiz 7, Review
11		Final exam