

MTH 251 – DIFFERENTIAL CALCULUS – SYLLABUS

1. INSTRUCTOR

Name: Brian Sherson

Office: Kidder 108E

Office Hours: MWF 2:00 – 2:50

MLC Hours: MWF 1:00 – 1:50

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2. CLASS INFORMATION

Meeting Time: MWRF 11:00 – 11:50

Location: Strand Agriculture 222

Term: April 1, 2013 – June 7, 2013

MyMathLab Course: sherson51157

Textbook: **Single Variable Calculus** by Briggs and Cochran with **MyMathLab Access Code**. (If you intend to take MTH 254, you will need multivariable version, titled **Calculus: Early Trascendentals**.)

Study Guide: **Calculus Study Guide CD – MTH 251** by Juha Pohjanpelto (provided by instructor)

Calculator: TI 83 or 84, HP 38/39/48/49/50 series or any calculator with graphing functionality. Instructor is more familiar with the HP 49G.

Prerequisites: MTH 111 and 112 with grades of **B** or better, or placement directly into 251. Students are responsible for knowing the material.

Webpage: <http://shersonb.net/courses/S-2013/MTH-251/>

Calendar: <http://shersonb.net/courses/S-2013/MTH-251/calendar.psp>

3. PREREQUISITE SKILLS

Continued mastery of algebra, geometry, and trigonometry is **very important**. Here, *continued mastery* means that you have retained all skills and knowledge in those courses. Having an A on your transcript for both 111 and 112 will not help you if you have not retained the skills and knowledge from those classes. If you cannot achieve mastery of these subjects in a timely manner, **you will most likely not pass this class**, and should consider dropping.

4. GRADING

Letter grades will be earned as follows:

$$F < 60\% \leq D < 67\% \leq D+ < 70\% \leq C- < 73\% \leq C < 77\% \leq C+ < 80\%,$$

$$80\% \leq B- < 83\% \leq B < 87\% \leq B+ < 90\% \leq A- < 93\% \leq A.$$

Students will be graded in **TWO** ways; one grade is computed the traditional way from weighted categories, whereas the other is based on the Skills Checklist. The final grade in the class will be the greater of the two.

4.1. Traditional Grade.

4.1.1. *Online Homework — 5%*. Online homework will be assigned as new material is covered in lecture and will be due one week later (at 11:59 pm). Late work may be accepted for 3 additional days with 20% per day penalty.

You will be required to purchase a MyMathLab code. If you purchased your textbook at the OSU Bookstore, a code should come bundled with the textbook. However, if you purchased your textbook elsewhere, you must take special care in observing whether or not a MyMathLab code is included in the package.

It is recommended you work online homework problems out **on paper** first. Should it be the case that you need assistance on an online homework problem, you will be asked to produce a printout of the problem **and** your work written down as far as you can go.

4.1.2. *Written Homework — 10%*. Written homework will be assigned every Thursday and collected the next Thursday at the **beginning** of class. Students will be expected to remain the full hour on Thursdays to work on the written homework; leaving early may result in loss of credit.

Late homework will not be accepted unless an extension has been granted. Students who need an extension must request one by e-mail and prepare a valid reason for needing an extension. The instructor will not remember verbal requests for extensions.

Difficult-to-grade homework (e.g., poor handwriting, unclear work, work crammed together in a small space, or no work shown at all) may result no credit being given. To receive full credit, written solutions must be written out thoroughly and clearly, with explanations. This may mean writing in complete sentences from time to time. Furthermore, scratch work often receives no credit. See Rules for Homework for details.

4.1.3. *Quizzes — 15%*. There will be 15-minute quizzes (20 points each) given every Thursday at the **beginning** of class, except for the first week, during weeks of midterms, and the week of the Differentiation Skills Quiz. The first quiz will be a take-home algebra review quiz given the first day of class. The remaining quizzes will cover skills outlined on the Skills Checklist. Students who are late will not be given any extra time, and no makeup quizzes will be given. Students who are caught writing on their quizzes after time has been called will not have their quizzes accepted. The lowest quiz score shall be dropped.

4.1.4. *Skills Quiz — 10%*. The Differentiation Skills Quiz (100 points) will be given Friday, May 10, 2013 in class. The quiz will consist of 15 differentiation problems and students may miss up to **five** problems (10 point deduction each). Students who miss more than five problems will receive a zero. Students are permitted two retries.

4.1.5. *Exams — 60%*.

- Midterm 1 (100 points) is scheduled for Tuesday, April 23, 2013 at 8:30 pm.
- Midterm 2 (100 points) is scheduled for Tuesday, May 14, 2013 at 8:30 pm.
- The final exam (150 points) is scheduled for Tuesday, June 11, 2013 at 4:00 pm.

The locations of these exams are to be determined at a later date.

With exception to medical crises, exam scheduling conflicts, and DAS arrangements, **no makeup exams will be permitted**. Notecards and calculators will not be permitted. A page of formulas and identities will be provided.

4.2. Skills Checklist. In addition to a traditional grade, students will also be graded on the completion of a skills checklist. Each item on the checklist will be graded as Unsatisfactory, Satisfactory (approximately half credit), and Proficient (full credit). The quizzes and exams will be designed to test on the items on the checklist. Students will have the opportunity to improve their scores on the checklist as they will be examined at least twice on many of the items.

Students will also be permitted the opportunity to be reexamined with at most **two** makeup quizzes to be taken in the MLC at an arranged time. To arrange such a makeup quiz, a student must request one through email at least 48 hours in advance, and specify which item he/she wishes to be examined on. The student can specify no more than 10 points worth of items (subject to deadline) for each makeup quiz. Makeup quizzes are not included in the traditional grade.

A student will earn a “proficient” grade for item 10 by passing the Differentiation Skills Quiz with 13 or more correct responses. Students who have 10 to 12 correct responses will earn a “satisfactory” grade. Differentiation Skills Quiz retakes do not count towards the limit of two makeup quizzes.

5. LECTURE FORMAT

In addition to the traditional 50-minute lecture, the instructor will post lecture notes online, and students will be encouraged to read the lecture notes prior to class. These written notes may often contain more examples than can typically be covered in a 50-minute lecture, and will also give students the opportunity to ask more questions in lecture.

6. EXPECTATIONS

It is the responsibility of the student, and the student alone to:

- Show up for lecture on time.
- Read their textbook, and not just the exercise sections. The textbook provides examples that may be useful. Students should read the relevant sections of the textbook **before** these sections are covered in lecture.
- Students who experience difficulty in this class should take advantage of these resources:
 - The instructor. My office hours are for me to help you. Additionally, if I am in my office outside of my designated office hours **and I am not busy with another task**, I will usually be open for help. **If there is a significant discrepancy between our teaching styles and your learning style**, coming to office hours for one-on-one help is a good place to start.
 - Math Learning Center — Free tutoring is available on a drop-in basis. Open Monday through Thursday 9:00 am to 5:00 pm, and Friday from 9:00 am to 4:00 pm. For more information, visit <http://www.math.oregonstate.edu/mlc>.
 - Collaborative Learning Center — Free tutoring Sunday through Thursday from 7 PM to 10 PM in the Valley Library.
- Request lecture notes from the instructor when the student misses a lecture. A student may request notes from another student, but students are not obligated to share their notes.
- Keep this document for reference.
- Keep cell phones on mute or turned off during class. Other electronic devices must also be shut off, with exception to those used for taking notes and other tasks relevant to the class.
- Be respectful of everyone in the classroom. Instructor reserves the right to remove disruptive students from the classroom.
- A strong work ethic is necessary to pass this class. Students who do the “bare minimum” often will not receive a grade higher than C–.

- Speak Up! I cannot help you if you do not seek help.

7. BACCALAUREATE CORE STUDENT LEARNING OUTCOMES

- (1) Identify situations that can be modeled mathematically.
- (2) Calculate and/or estimate the relevant variables and relations in a mathematical setting.
- (3) Critique the applicability of a mathematical approach or the validity of a mathematical conclusion.

8. MTH 251 LEARNING OUTCOMES

A successful student in MTH 251 will be able to:

- (1) Calculate average and instantaneous rates of change and identify instantaneous rates of change with derivatives.
- (2) Apply ideas of differential calculus to motion problems (velocity, speed, and acceleration).
- (3) Apply the algebraic limit laws and the standard rules of differentiation including the chain rule to calculate particular limits and derivatives.
- (4) Use methods of calculus to solve maximum and minimum problems.
- (5) Use methods of calculus to determine the shapes of curves.

9. ACCOMMODATIONS FOR DISABILITIES

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

10. ACADEMIC DISHONESTY

Academic honesty and student conduct. Students are expected to be familiar with Oregon State University's Statement of Expectations for Student Conduct, to be found online at:
<http://oregonstate.edu/admin/stucon/achon.htm>