MTH 252 – INTEGRAL CALCULUS – SYLLABUS

1. INSTRUCTOR

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2. CLASS INFORMATION

Term: January 9, 2017 – March 17, 2017
MyMathLab Course: Access through Canvas (**First assignment due January 18, 10pm**)
Textbook: Calculus: Early Trancendentals (Second Edition) by Briggs, Cochran, and Gillett with **MyMathLab Access Code**.
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. If you are experienced with programming or scripting, you may sign up for a free SAGE Cloud account at https://cloud.sagemath.com/.
Prerequisites: Enforced prerequisites are MTH 251 with C− or better, or instructor permission. Students with grades in MTH 111, 112, and 251 of **B-** or higher will be better prepared for MTH 252. **Students are responsible for knowing the prerequisite material.**
Webpage: http://shersonb.net/courses/W-2017/MTH-252/
Calendar: http://shersonb.net/courses/W-2017/MTH-252/calendar.psp

This is a **4-credit class**, with three hours of lecture and one hour (or one and a half hours) of recitation each week.

3. COURSE CONTENT

Integral Calculus consists of the material from Chapters 5 through 7 of the text. We will study the following topics in depth:

- Antiderivatives
- Riemann sums, the Fundamental Theorem of Calculus, and definite integrals
- Techniques of integration
- Applications of integral calculus may include: areas, volumes, force, work, and growth and decay problems
- The integral calculus of polynomial, rational, logarithmic, exponential and trigonometric functions
- Numerical integration

4. Prerequisite Skills

Continued mastery of algebra, geometry, trigonometry, and differentiation is **very important**. Here, *continued mastery* means that you have retained all skills and knowledge in those courses. That is, if you took the final exam for both 111, 112, and 251 **again**, you will still earn a passing grade. Students who do not maintain mastery of these subjects, or do not regain mastery in a timely manner are less likely to succeed in Integral Calculus.

5. Grading

Letter grades will be earned as follows:

$$\text{F} < 57\% \leq \text{D}- < 60\% \leq \text{D} < 67\% \leq \text{D}+ < 70\% \leq \text{C}- < 73\% \leq \text{C} < 77\%,$$

$$77\% \leq \text{C}+ < 80\% \leq \text{B}- < 83\% \leq \text{B} < 87\% \leq \text{B}+ < 90\% \leq \text{A}- < 93\% \leq \text{A}.$$

5.1. **Online Homework — 10%.** Online homework will be assigned as new material is covered in lecture and will be due one week later (at 10:00 pm), unless otherwise specified. Late work may be accepted with a penalty of 20% per day.

A valid MyMathLab code is **required**. 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. MyMathLab codes activated **within the last year** for MTH 251 or 252 should be valid.

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.

Online assignments labelled as "OPTIONAL" or "Chapter Review" are provided only for your own practice, and while highly recommended, will not be included in grading.

You can access MyMathLab through Canvas (http://oregonstate.instructure.com/).

5.2. **Quizzes — 10%.** Regular quizzes will be given during Thursday recitations, and will be based on both online homework, and lab activities (given during recitations but not collected). The first quiz, Quiz 0, will be a take-home quiz that is collected the following week, while the remaining quizzes are in-class only. Students are permitted the use of notes during quizzes. No regular quizzes are given during the weeks of the first and second skills quizzes. One low quiz score will be dropped; Quiz 0 is not eligible to be dropped.

5.3. **Integration Skills Quiz — 10%.** The Integration Skills Quiz will be given Thursday, February 16, 2017, at the end of recitation. Grading details are to be announced at a later date. Students who fail the skills quiz, or otherwise wish to improve their score will be permitted two additional attempts.

Grading of the Integration Skills Quiz will be as follows:

9 - 10 completely correct	100% credit
8 completely correct	80% credit
6 - 7 completely correct	50% credit
5 or less correct	No credit

Students who pass the Integration Skills Quiz on the first try will not be required to take additional attempts. However, students who score 100% on both the first and second attempts will be awarded a bonus.

5.4. **Exams — 70%.**

- Midterm 1 (100 points) is scheduled for Tuesday, January 31, 2017 at 7:00 pm.
- Midterm 2 (100 points) is scheduled for Tuesday, February 21, 2017 at 7:00 pm.
- The final exam (150 points) is scheduled for Thursday, March 23, 2017 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**.

Calculators will be permitted on exams, except for those with graphing and symbolic Calculus functionality. A listing of calculators known to be acceptable and not acceptable will be posted at a later date.

Low midterm score replacement: Students who score better on their final exam than one of their midterms will have their low midterm score replaced with the average exam score.

6. Expectations

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

- Show up for lecture and recitation 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:
  - Your instructor. My office hours are for me to help you. Additionally, if I am in my office outside of my designated office hours **and if 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.
  - Your graduate teaching assistant also holds office and MSLC hours for you to seek help.
  - Math and Statistics Learning Center (formerly the 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, from weeks 2 through 10. 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.
- Keep all course documents (syllabus, calendar, etc...) 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−.

7. Mathematics Baccalaureate Core 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 252 Measurable Student Learning Outcomes

A successful MTH-252 student should achieve the following outcomes, as determined by the Math Department:

(1) Describe the definite integral as a limit of Riemann sums and illustrate and interpret definite integrals as areas and signed areas.
(2) Apply the fundamental theorem of calculus to evaluate integrals and to differentiate integrals with respect to a limit of integration.
(3) Use integration to find areas and volumes of regions and calculate physical quantities such as total distance traveled, displacement, work, and center of mass.
(4) Evaluate integrals using basic numerical integration rules.
(5) Use first order differential equations to model and solve problems of growth and decay, cooling, and mixing.

9. Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

10. Academic Dishonesty and Student Conduct

Students are expected to be familiar with the Homework and Exam policies stated in this syllabus, as well as Oregon State University's Student Conduct Code.

Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- cheating – use or attempted use of unauthorized materials, information or study aids
- fabrication – falsification or invention of any information
- assisting – helping another commit an act of academic dishonesty
- tampering – altering or interfering with evaluation instruments and documents
- plagiarism – representing the words or ideas of another person as one's own

http://studentlife.oregonstate.edu/studentconduct/