Professor: Dr. Talitha M. Washington

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Office hours: M 9-10, 12-1; T 9-10; W 8-11, 12-1; Th 9-10; 1:20-2:20; F 9-10

Text: *Calculus - Early Transcendentals,* Sixth Edition, by Stewart

Course Website: http://acebb.evansville.edu

Course Description: MATH 222 Calculus II (4): Covers applications of integration; integration techniques, infinite series, conic sections, parametric and polar equations and an introduction to differential equations. Prerequisite: Grade of C- or better in Mathematics 211 or 221.

Course Learning Objectives: Math 222 is the second course in a three-course sequence: 211/221, 222, 323. The major topics covered in this course include applications of integration, integration techniques, infinite series, conic sections, parametric and polar equations and an introduction to differential equations. The general course goals are to help you:

- develop skills in applying the techniques of calculus,
- develop an understanding of the central concepts of calculus,
- develop critical thinking and problem solving skills,
- develop an ability to communicate mathematics, both in writing and orally, and
- prepare for further study in mathematics, the physical sciences, or engineering.

Methods of Instruction: The method of instruction for most classes will be a lecture/discussion. Most classes will begin with a discussion of homework problems followed by an introduction of new material. Students are encouraged to participate in class by asking questions, contributing to discussions, and working problems. Outside of class, students are expected to read the text, complete all assigned homework, and come to my office hours and ask questions about the homework.

Grading: The weights in determining your final grade are as follows:

- Quizzes & Projects – 15%
- Four Exams **(Jan 25, Feb 15, Mar 14, Apr 18)** – 15% each
- Comprehensive Final Exam **(Fri May 2, 10:15 AM)** – 25%

The lowest exam score will be replaced by the grade on the final if your final exam score is higher than the lowest score. The course grade will be given on a 90-80-70-60 curve based on total points. Individual tests are not curved. Other factors which may (positively) affect your course grade are: the quality of your final exam, attendance, and your interest in the course.

Course requirements and policies:

a. Calculators: You may use a graphing calculator on all exams. If you don't already have one, consider purchasing a TI-83+ or TI-84+. Calculators with symbolic algebra capability (e.g. TI-89 or TI-92) **will not** be allowed during exams or quizzes.

b. Attendance: You are expected to attend class on time every day. However, if you miss a day, it is up to **you** (not me, or your classmates) to catch up and learn what you have missed.

c. Quizzes: The word "quiz" may mean a variety of things – an announced in-class quiz (see schedule), selected homework problems to turn in, and in-class group activity, an out-of-class activity, or a take-home quiz. There are NO make-ups for quizzes. At the end of the semester, the lowest quiz score of each student will be dropped.

d. Homework: These will be assigned daily. Suggested practice problems are found on page 4. These problems are for your practice and will not be graded; HOWEVER, you should do all these homework problems and are responsible for knowing how to work them. Many questions on the quizzes, tests and exams will be strikingly similar to those given in the homework.

e. Make-ups: Assignments that are to be completed outside of class will **not** be accepted late for any reason. Make-up exams will be given only in extreme circumstances that are documented university approved excused absences, and only if I am aware of the circumstances prior to the exam. In particular, make-ups will never be given to accommodate travel plans.

f. Honor Code: It is expected that students are familiar with and will comply with the terms of the University's Academic Honor Code. Collaboration on homework is allowed and encouraged, but giving or receiving help of any kind on tests, exams and quizzes is strictly prohibited.

g. Accessibility: Please let me know immediately if you have a learning or physical disability requiring accommodation. For more information, contact the Office of Counseling and Health Education at 488-2663.

h. Some advice:

- Try the homework before asking for help
- Read the book before class
- Be active in class and come every day, on time
- Devote ~8 hours per week to this course
- Actively seek understanding
- Prepare for tests other than the night before
- Question why things are done a certain way
- Correct all old tests

Schedule

Week #	Monday	Tuesday	Thursday	Friday
1			*1/10* Intro, 6.1	*1/11* 6.1, TH Quiz 1
2	*1/14* 6.2	*1/15* 6.3	*1/17* 6.4	*1/18* 6.4, 6.5, Quiz 2
3	*1/21* MLK Day – No Classes	*1/22* 6.5	*1/24* Review	*1/25* **Exam 1**
4	*1/28* 7.1	*1/29* 7.2	*1/31* 7.2, 7.3	*2/1* 7.3, Quiz 3
5	*2/4* 7.4	*2/5* 7.4, 7.5	*2/7* 7.5	*2/8* 7.7, Quiz 4
6	*2/11* 7.7, 7.8	*2/12* 7.8	*2/14* Review	*2/15* **Exam 2**
7	*2/18* 8.1	*2/19* 8.1, 8.2	*2/21* 8.2	*2/22* 8.3, Quiz 5
8	*2/25* 10.1	*2/26* 10.2	*2/28* 10.3	*2/29* 10.4, Quiz 6
9	*3/10* 10.4, 10.5	*3/11* 10.5	*3/13* Review	*3/14* **Exam 3**
10	*3/17* 11.1	*3/18* 11.2	*3/20* 11.3	*3/21* E. Break – No Classes
11	*3/24* E. Break – No Classes	*3/25* Project	*3/27* 11.3, 11.4	*3/28* 11.4, Quiz 7
12	*3/31* 11.5	*4/1* 11.6	*4/3* 11.7	*4/4* 11.7, 11.8, Quiz 8
13	*4/7* 11.8	*4/8* 11.9, 11.8	*4/10* 11.9	*4/11* 11.10, Quiz 9
14	*4/14* 11.10, 11.11	*4/15* 11.11	*4/17* Review	*4/18* **Exam 4**
15	*4/21* 9.1	*4/22* 9.2	*4/24* 9.3, 9.4	*4/25* 9.5, Quiz 10
16	*4/28* Review	*4/29* Review		*5/2* Final Exam 10:15 AM

**Please note that this schedule may vary according to our progress in class.*

Assignments

Using the Definite Integral

6.1	p. 420	1, 3, 7, 9, 13-33 odd, 43, 45, 47, 49, 51
6.2	p. 430	3, 9, 11, 15, 17, 19, 23, 27, 31, 35, 41, 47, 49, 56, 58
6.3	p. 436	5, 7, 9, 11, 17, 19, 23, 25, 29, 31, 37, 45
6.4	p. 441	3, 5, 9, 11, 13, 15, 19, 21, 23
6.5	p. 445	5, 7, 9, 14, 15, 17, 19

Exam 1, Friday, January 25

Integration

7.1	p. 457	1-31 odd, 53, 59, 61
7.2	p. 465	1, 7, 11, 19, 23, 41, 55, 61
7.3	p. 472	5, 9, 11, 13, 17, 19, 33
7.4	p. 481	1-11 odd, 17, 23, 29
7.5	p. 488	1, 7, 11, 13, 15, 19, 31, 43
7.7	p. 505	9 (use $n = 4$), 17, 21 (use $n = 4$), 29, 31, 33
7.8	p. 515	1, 5, 7, 9, 13, 19, 25, 31, 33, 41, 49, 51, 57, 63

Exam 2, Friday, February 15

Using the Definite Integral

8.1	p. 530	1, 7, 11, 17, 23 (use $n = 4$), 41
8.2	p. 537	1, 3, 5, 7, 11, 13, 17 (use $n = 4$), 25
8.3	p. 547	3, 5, 7, 9, 13, 25, 27, 29, 31

Parametric and Polar Curves

10.1	p. 626	3-15 odd, 19, 21, 24, 33
10.2	p. 636	1, 3, 5, 7, 11, 17, 19, 37, 39, 41, 45, 59, 65
10.3	p. 647	1, 3, 5, 7, 9, 11, 15, 17, 21, 25, 29, 31, 35, 37, 43, 49, 57, 63
10.4	p. 653	3, 5, 7, 13, 17, 23, 27, 29, 33, 37, 45
10.5	p. 660	1, 5, 11, 15, 19, 23, 25, 27, 29, 31, 37, 43

Exam 3, Friday, March 14

Series

11.1	p. 684	5, 7, 9, 11, 13, 19, 21, 25, 27, 29, 33, 41, 45, 55, 61, 63
11.2	p. 694	9, 11, 13, 15, 17, 19, 21, 23, 25, 41, 43, 47, 51
11.3	p. 703	3, 7, 9, 11, 13, 15, 17, 19, 21, 25
11.4	p. 709	1, 3, 5, 7, 13, 15, 17, 19, 23, 29
11.5	p. 713	3, 5, 7, 11, 13, 15, 19, 23, 27
11.6	p. 719	1, 3, 5, 9, 11, 15, 17, 21, 25, 29, 31
11.7	p. 722	1, 3, 5, 7, 9, 13, 17, 21, 25, 31, 37
11.8	p. 727	3, 7, 9, 13, 17, 19, 23, 25
11.9	p. 733	3, 5, 9, 11, 13, 15, 35
11.10	p. 746	5, 7, 9, 13, 15, 17, 19, 29, 31, 47, 55, 63, 67
11.11	p. 755	5, 9, 13, 17

Exam 4, Friday, April 18

Differential Equations

9.1	p. 571	1, 3, 5, 9, 11
9.2	p. 578	1, 3-6, 7
9.3	p. 586	1, 3, 7, 9, 11, 13, 19, 39
9.4	p. 598	1
9.5	p. 606	1, 3, 5, 7, 9, 11, 13, 17, 19

Final Exam, Friday, May 2, 10:15 AM

**Changes to Exam dates and Assignments will be announced in class*