



Math 156 - Calculus 2
Section 001
Fall 2015

Instructor Information:

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Office Hours: Mondays and Wednesdays 11:00-12:00, and Fridays 11:00-12:00 by appointment

Course Website: http://www.math.wvu.edu/~hjlai/Teaching/Math156_Website/index.htm

Course Description: Techniques of integration, applications of the definite integral, polar coordinates, indeterminate forms and infinite series.

Prerequisites: A grade of C or better in Math 154 or MATH 155. Be sure to check your mix e-mail during the first week of classes. If the department believes that you do not meet the prerequisites, you will receive an e-mail and will be required to show documentation of how you meet the prerequisites. If you do not provide the appropriate documentation, you will be dropped from this course.

Course Materials:

1. *Textbook:* Essential Calculus: Early Transcendentals, 1st Edition, by James Stewart OR the WVU custom version that is sold at the bookstores. Instead of purchasing a hard copy, you are welcome to purchase access to the e-book, available through WebAssign. This is the same textbook that is used in Math 154, Math 155, and Math 251 (Calculus 1 and 3).
2. *Calculator:* Calculators will NOT be allowed on exams and quizzes.
3. *WebAssign:* This is the online homework system that we will be using this semester. You are required to purchase access to this system for this class. Everyone has free access for two weeks, but fees must be paid by the end of the second week of classes.

Evaluation & Grade Assignment: Throughout this course, you will be graded not only on your ability to obtain the correct answer to a problem, but also on your ability to use the problem solving methods taught in this course and your ability to justify your work. **A CORRECT ANSWER WITHOUT THE SUPPORTING WORK WILL BE GIVEN NO CREDIT.** This applies to exams, homework, quizzes, and in-class activities. When in doubt, show all of the steps!!

Your course grade will be broken into the following components.

4 Tests	400 points
Comprehensive Final Exam	200 points
Quizzes	50 points
Homework	100 points
Total	750 points

Points	Percentage	Grade
675 - 750	90 - 100	A
600 - 674.9	80 - 89.9	B
525 - 599.9	70 - 79.9	C
450 - 524.9	60 - 69.9	D
0 - 449.9	0 - 59.9	F

Testing Procedures: There will be four tests and a comprehensive common final exam. Test dates will be announced in class a week in advance. **CALCULATORS WILL NOT BE PERMITTED ON ANY EXAM OR the FINAL.**

Final exam will be on Thursday, December 10, 2015, 8:00 AM – 10:00 AM. (see

http://registrar.wvu.edu/current_students/finals).

Tentative Midterm Test Days: (Subject to change)

9/4/2015, 9/28/2015, 10/23/2015, 11/17/2015. **Changes will be announced at least one week prior to test. Students who fail to take a test due to missing the class in which the test day change is announced will take sole responsibility for not taking the test.**

Exam Makeup Policy: There are no make-up exams. If you miss an exam, your grade will be recorded as a zero. The final exam percentage can be used to replace your exam grade for this exam. Missing more than one exam will result in a score of zero for exams after the first missed exam. Only students with valid university sanctioned event excuses will be given an opportunity to make up the missed exams. No exceptions will be made to this policy.

Quizzes: There will be in class and take home quizzes during the semester. Each quiz is worth 5 points. The top 10 quiz scores will be counted for each student. **There are NO make-up quizzes.**

Homework: There will be three types of homework assignments: online homework (WebAssign), written homework, and review homework. At the end of the semester total points for all homework assignments will be converted to 0-100 scale.

WebAssign Homework: This is the online homework. Late work will be accepted two days after the due date for 80% credit. Even on assignments not yet fully completed, any work finished before the due date will not have credit deducted. You will have 15 attempts per question. You will be able to access WebAssign materials on Friday of the first week of classes. **Before this date, online materials for this course will not be available.** Go to www.webassign.net to log in. Your username is your MixID and your password is "math156". Of course, change your password the first time you log in. Additional information about WebAssign may be obtained by making requests to your instructor.

Written Homework: Each assignment will have a due date. Late assignments will result in the loss of 20% of the credit if turned in at the beginning of the next class. Assignments turned in later will receive no credit. You must show appropriate work to receive any credit.

Review Homework: This type of homework will test concepts that you need to know before starting new material. It can be written or online. Late submissions will not be allowed.

Academic Integrity: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, instructors will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code at <http://www.arc.wvu.edu/admissions/integrity.html>. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your instructor or the course coordinator *before* the assignment is due to discuss the matter.

Social Justice Statement: The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in your class, please advise me and make appropriate arrangements with the Office of Accessibility Services (293-6700). In particular, if you are allowed extra time for examinations, please give your instructor the appropriate paperwork ASAP so that we can make the appropriate accommodations for your exams. Please note that your instructor will give a copy of this paperwork to the course coordinator. For more information on West Virginia University's Diversity, Equity, and Inclusion Initiatives, please see <http://diversity.wvu.edu>.

Help Outside the Classroom: There are several ways to seek help with Math 156.

1. You may attend the office hours.
2. You may also stop by the Math Learning Center, 301 Armstrong, where you may receive FREE tutoring from the graduate teaching assistants and undergraduate math majors. Hours of operation are posted at the MLC. This is a *great* place to work on your homework alone or with classmates!
3. You are able to use the IML Computer Lab during open lab hours. These times will be listed on the course website. Tutors are often available in this location.
4. Tutoring is available in the University Learning Centers in the residence halls.
5. You may wish to hire a private tutor. Several graduate students are available for tutoring. A list of tutors is available in the Math Office, 320 Armstrong Hall.
6. You may enroll in a section of Supplemental Instruction. (A handout with more information is available.)

Math 156: Calculus 2

Learning Outcomes

As part of the General Education Foundations (GEF) curriculum, this course incorporates GEF Learning Goals in addition to the specific learning outcomes for this course.

GEF Learning Goal 2:*GEF courses should teach at least one intellectual or practical skill relevant for modern life, and explicitly describe to students what it is and where it is applicable.*

- Analyze a problem and select an appropriate solution strategy.
- Compare and contrast multiple solution methods to determine accuracy and efficiency.
- Effectively communicate mathematical ideas and solutions in written form.

GEF Learning Goal 4:*GEF courses should allow for the integration and synthesis of knowledge across disciplines, and courses should explicitly explain the connection of knowledge across disciplines.*

- Use mathematics to model real-world situations and to solve relevant problems from other disciplines (e.g. physics, engineering, biology, etc.)

Math 156 Specific Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Apply techniques of integration to various integral problems.
2. Recognize and calculate the limit of a sequence.
3. Recognize series and apply appropriate convergence tests to solve series problems.
4. Represent functions as power series.
5. Move fluently between Cartesian and Polar coordinate systems and parametric equations.
6. Use integrals to solve problems involving area, volume, force, work, moments and center of mass (Physics and Engineering).

This syllabus is subject to change. Check emails for updates.

Homework Assignments

Week	Sections	Assignments	Due Day
2	5.4	8, 9, 14, 17, 19	
	5.5	9, 11, 19, 24, 35, 38, 44, 47, 51	
	6.1	5, 11, 13, 15, 21, 28,	8/31/15
3	6.1	17, 23, 34, 38	
	6.2	3, 11, 13, 20, 25, 34, 37, 39, 40, 45, 49,	
	6.3	3, 5, 9, 15, 16,	9/7/15
4	6.3	21, 23, 27, 31, 34	
	6.6	1, 2, 9, 11, 17, 23,	9/14/15
5	6.6	22, 25, 31, 33,	
	7.1	3, 7, 9, 12, 13, 15, 16	9/21/15
6	7.2	1, 3, 7, 9, 11, 11, 13, 15, 21	
	7.3	1, 5, 6, 7, 11, 13,	9/28/15
7	7.3	17, 19, 24, 25, 35	
	7.4	3, 5, 9, 13, 15	10/5
8	8.1	3, 5, 6, 7, 9, 13, 17, 23, 27	10/12
9	8.1	33, 36, 37, 39	
	8.2	3, 5, 7, 27, 28, 29, 9, 11, 12, 13, 14, 19, 21, 23	10/19
10	8.3	6, 7, 8, 12, 15, 22, 19, 23 (try any method that works)	
	8.4	2, 5, 7, 8, 9, 18, 23, 19, 24, 30, 31, 33, 35, 37, 39	10/26
11	8.5	2, 3, 5, 9, 13, 14, 15, 17, 19, 20,	
	8.6	1, 2, 5, 7, 11, 15, 17, 23, 26	11/2
12	8.7	3, 5, 12, 15, 18, 28, 29, 59, 63	
	9.1	5, 9, 11, 15, 18	11/9
13	9.2	1, 3, 5, 9, 11, 13, 16, 25, 26, 29, 34	
	9.3	1, 3, 5, 8, 9, 13, 14, 17, 18, 26, 31, 39	11/16
14	9.4	3, 11, 14, 19, 20, 23, 29	
	7.5	5, 33, 35	11/30