

**MTH 229 Section 301**  
**Calculus with Analytic Geometry I**  
 9:00 – 12:45 MTWRF SH 509

**I. General Information**

*Instructor:* Dr. Yulia Dementieva      *Office hours:* MTWRF: 2:00 – 3:30 PM  
*Office:* ML109  
*Office phone/e-mail:* 696-6643 / [dementieva@marshall.edu](mailto:dementieva@marshall.edu)

*Web Page:* <http://www.science.marshall.edu/dementieva/>

*Required Textbook:* Calculus: Early Transcendentals, (Sixth Edition) by James Stewart

*Calculator:* Graphing calculator is recommended. TI-83 is recommended by the department. However, graphing calculators may not be allowed for some problems on exams.

*Prerequisites:* ACT 27 or SAT 620 or (MTH 127 and MTH 122) or (MTH 130E and MTH 122) or (MTH 130 and MTH 122) or MTH 132

Course Description: MTH 229 is the first course in a three-course study of calculus and is required course for B.S. in Chemistry, Computer Science, Engineering, Mathematics, and Physics majors. It is also required by Mathematics 5 – 12 Education majors and may also be used to satisfy the mathematics requirement of Biology majors. This five-hour course introduces the four ideas of limit, continuity, derivative, and integral. We will learn their definitions and evaluation methods. We will practice theory, applications, and evaluation techniques.

Course Contents: (Chapters 1 - 5 in the textbook)

- **Functions and Models:** Functions, transformations, mathematical Models, etc.
- **Limits and Derivatives:** Introduction to limits, limit laws, continuity, introduction to differential calculus, derivatives, etc.
- **Differentiation Rules:** Power rule, product and quotient rules, chain rule and implicit differentiation, derivatives of exponential, logarithmic and trigonometric functions, higher derivatives, related rates, differentials, etc.
- **Applications of Differentiation:** Optimization, Mean Value Theorem, L'Hospital's rule, curve sketching, antiderivatives, etc.
- **Integrals:** The definite integral, The Fundamental Theorem of Calculus, The Net Change Theorem, Substitution rule, etc.

Course Objectives: Upon completion of this course, students will have a clear understanding of major concepts of calculus – limit of a function, derivative of a function, and integral of a function. They will be able to use these mathematical concepts to solve real world applications.

**II. Attendance Policy** Students are required to attend the class every day. They must come to class on time and stay in the class for the entire period. Students are responsible for the material discussed in the class on each day even if they miss the class on that day. There is no attendance grade, though. However, missing class can be expected to significantly reduce your chances of success.

**III. Testing and Grading**

A. The following grades will be taken:

Quizzes	15%	
Test 1	20%	Friday, May 15
Test 2	20%	Friday, May 22
Test 3	20%	Monday, June 1
Final Exam	25%	<b>9:00 A.M. – 11:00 A.M. Friday, June 5</b>
TOTAL	100%	

B. Homework problems will be assigned at each class meeting. These problems are for your benefit and will not be graded. However, some of the homework problems will appear on Quizzes. These exercises are to help you learn the material, reinforce the new concepts, and develop technique in problem solving. **The quizzes and exams will**

**be constructed with the assumption that you have practiced the exercises and have become proficient and efficient in doing them.**

- C. Throughout of semester, there will be quizzes given during the first 10-15 minutes of the class on assigned days (roughly, every other day). Problems in quizzes will be given from assigned homework problems. These quizzes are closed notes and books. Students should submit their line-by-line solutions (**one line answers are not acceptable**) to all the listed exercises. The lowest quiz grade will be dropped before calculating the quiz average. **No make-up for quizzes** will be given.
- D. There will be three 75-minute midterm exams, and a **comprehensive** 120-minute final exam. All exams will be in-class and closed book. The tentative dates for midterms are **Friday, May 15, Friday, May 22, and Friday, May 29**. Final exam will be on **Friday, June 5** from **9:00 am to 11:00 am**. I will count 1.5 times the best score and the 0.5 times the lowest test score. Other test scores will not be changed.
- E. The semester grade will be based on the following scale.
- |           |    |   |
|-----------|----|---|
| 90 - 100% | -- | A |
| 80 - 89%  | -- | B |
| 70 - 79%  | -- | C |
| 60 - 69%  | -- | D |
| 0 - 59%   | -- | F |

#### **IV. Study Habits**

You should devote approximately **6 hours a week** outside the class time to the course - studying your book and class-notes, thinking about the ideas and concepts and how they relate to each other, talking with some of your classmates about them (study groups are encouraged), doing exercises etc. If you are not prepared to make the effort, you should re-examine the reasons why you are taking this course. *Not everything you need to know will be discussed in the class, and not everything you need to know is in the book. The class and the book will reinforce each other.* The assigned exercises will give you an indication of the emphasis in the course. The class will also inform you what to expect on exams.

#### **V. Missing Exams**

- A. If you miss a test due to an unexcused absence, you will receive a grade of 0 for that test.
- B. If you miss a test due to an excused absence, you must provide verification within one week of the test. You will then be allowed to take the make-up test.
- C. If you cannot be at the final exam, let me know as soon as you know. A missing final exam score means an automatic grade of F for the course.

#### **VI. Cheating**

- A. In a case of suspicion, a student may be asked to re-take the test.
- B. Confirmed cheating will result in a grade of 0 on the test.

#### **VII. Miscellaneous**

- A. Free tutoring is available in SH 526 and through Academic Support Services (call 696-3169). Free tutoring is also available for veterans.
- B. **Policy for Students with Disabilities:** Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304 696-2271 to provide documentation of their disability. Following this, the DSS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit <http://www.marshall.edu/disabled> or contact Disabled Student Services Office at Prichard Hall 11, phone 304-696-2271.

### **VIII. Tentative Schedule**

5-11	Introduction. Sections 1.1 – 1.2
5-12	Sections 1.3 – 1.5
5-13	Sections 1.6, 2.1-2.2
5-14	Sections 2.3 – 2.4, Review
5-15	<b>EXAM 1</b> , Section 2.5
5-18	Sections 2.6 – 2.7
5-19	Sections 2.8, 3.1
5-20	Sections 3.2 – 3.3
5-21	Section 3.4 – 3.5, Review
5-22	<b>EXAM 2</b> , Sections 3.6 – 3.7
5-25	<i>Memorial Day Holliday – no class</i>
5-26	Sections 3.8 – 3. 10
5-27	Sections 4.1 – 4. 2
5-28	Sections 4.3 – 4.4
5-29	Sections 4.5 – 4.6
6-1	<b>EXAM 3</b> , Sections 4.7 – 4.8
6-2	Sections 4.9, 5.1
6-3	Sections 5.2 – 5.3
6-4	Sections 5.4 – 5.5
6-5	<b>FINAL EXAM</b>