Course Syllabus MTH 229(CT) Section 202 Spring 2016

Course Title:	Calculus/Analytic Geometry I (CT)
Course Number:	MTH 229 -- Section 202 -- CRN 4065 -- Credit: 5 Hours
Textbook:	Calculus, Early Transcendental by Rogawski and Adams, Third Edition
Sections Covered:	1.1-1.6, 2.1-2.9, 3.1-3.10, 4.1-4.8, 5.1-5.7
Course Description:	An introduction to analytic geometry. Limits, derivatives, and integrals of the elementaryfunctions, functions of one variable, including the transcendental functions.
Calculator:	TI-83 or higher, graphing calculators may not be allowed for some problems in exams.
Core Credits	This course fulfills a Core I CT requirement (Mathematical & Abstract Thinking, Information and Technical Literacy, and Oral, Written, and Visual Communication) *and* a Core II Math requirement.
Prerequisites:	ACT Math 27 or SAT Math 610 or MTH 132 "C" or higher
Meeting Time:	MTWRF: 12:00 – 12:50 PM
Classroom:	Smith Hall 513
Instructor:	Dr. Basant Karna
Office:	Smith Hall 715
Office Hours:	MW10:00-11:00 AM,TR1:00-2:00 PM, F11:00-12:00PM, others by appointment
Phone/Email:	Phone: (304) 696-4332, Email: karna@marshall.edu
Webpage:	http://www.science.marshall.edu/karna/
Course Goals	1. To give students an understanding of the fundamental concepts of calculus and an appreciation of its many applications. 2. To develop critical thinking skills by asking students to convert real-world problems into forms suitable for calculus, and interpret the results of calculus in real-world problems. 3. To provide students with a deeper understanding of the mathematics that is used in their science and engineering courses. 4. To develop facility in using graphing calculators to solve mathematics problems. 5. To satisfy program requirements.
Course Objectives:	1. Students should be able to evaluate limits, derivatives, and integrals symbolically. 2. Students should be able to approximate limits, derivatives, and definite integrals from tabular and graphical data. 3. Students should be familiar with the definitions of limits, derivatives, and integrals; be able to apply these definitions to test properties of these concepts; and be able to produce verbal arguments and examples showing that basic properties hold or do not hold. 4. Students should be able to apply the techniques of calculus to answer questions about the analytic geometry of functions, including vertical and horizontal asymptotes, tangent lines, local extrema, and global extrema. 5. Students should be able to verbally explain the meaning of limits, derivatives, and integrals in their own words, both in general terms and in the context of specific problems.

Course Student Learning Outcomes	How student achievement of each outcome will be assessed
Students will have an understanding of the fundamental concepts of calculus and an appreciation of its many applications.	Homework, quizzes and exams
Develop critical thinking skills by asking students to convert real-world problems into forms suitable for calculus, and interpret the results of calculus in real-world problems.	Homework, quizzes and exams
A deeper understanding of the mathematics that is used in their science and engineering courses.	Homework, quizzes and exams
Students will develop facility in using graphing calculators to solve mathematics problems.	Homework, quizzes and exams
Reasoning: Calculus is a collection of reasoning techniques that allows one to understand how changing quantities behave. This understanding is fundamental to progress in science and engineering. Students will use mathematical reasoning in their study of calculus concepts to verify properties of the concepts they study, and they will use scientific reasoning to determine whether possible solutions are reasonable for a given situation.	Homework, quizzes and exams
Representations: Students will work with information specified in verbal, graphical, tabular, and symbolic forms. Many problems will require students to take information in one of these forms, analyze it, and create a solution in a different form. Students will be required to produce verbal explanations of the meanings of mathematical concepts, both in general and in the context of specific problems.	Homework, quizzes and exams
Information literacy: To solve the applied problems in this course, students must determine which information in the problem is relevant to the solution, access this information and use it to obtain a mathematical solution, and then translate the mathematical solution back into the language of the original problem.	Homework, quizzes and exams

Course Contents:	- Review of college algebra - Limits of functions of one variables - Derivatives of functions of one variable - Applications of Derivatives - Integrals of functions of one variables
Attendance Policy:	Attendance is required and you must come with your text. Attendance will be taken every class day either by sign-in-sheet or by quiz. Having more than **25%** absences (excused or unexcused) may result in a course grade of **F**! Absences which can be excused include illness, emergencies, or participation in another university activity.
Grading Policy:	A. *Quizzes*: Throughout the semester, there will be 12 quizzes given during the last 15 minutes of the class on Fridays. Problems in quizzes will be given from assigned homework problems (textbook will not be allowed). Two lowestquizzes scores will be dropped. B. *Exams:* There will be 3 exams given in class during the semester. C. *Homework Problems:* Homework problems will be assigned and collected. You are responsible for reading the text, working the exercises, coming to office hours for help when you're stuck, and being aware of the dates for the major exams. D. *Final Exam:* There will be a two-hour final exam on May 6, 2016.

Points Distribution:	Quizzes(10) 100 Pts 5 Homework Assignments 50 Pts 3 Exams 300 Pts Final Exam 115 Pts Attendance and GEAR Upload 35 Pts --- Total Pts: 600 Pts
Grades	The semester grade will be based on the percentage of the 600 total possible points, using the following scale. A: 90 -100 % , B: 80 - 89 %, C: 70 - 79 %, D: 60 - 69 %, F: 0 - 59 % Note: The class score will be posted on MUOnline.
Make-ups:	A. Quizzes: For unavoidable missed quizzes with valid documentation, I will give you make up quiz within a week of the original quiz date (up to two quizzes). B. *Exams*: Making up a missed exam is possible only if you receive prior permission from me and only for serious and unavoidable circumstances. Make-ups must be taken within a week of the original exam date. You can't make up a make-up exam. C. *Final*: If you don't take final exam, you will receive an "F" for the class.
Exam Dates	Exam 1 –Feb 12, Exam 2 – March 11, Exam 3 – April 15 (Fridays) Quizzes: Q1-J15, Q2-J22, Q3-J29, Q4-F5, Q5-F19, Q6-F26, Q7-M4, Q8-M18, Q9-A1, Q10-A8, Q11-A22, Q12-A29 (Fridays) Final Exam: May 6 @ 10:15 AM(Friday)
Important Dates:	• January 18, Monday – MLK, Jr. Holiday – No Class • January 19, Tuesday – "W" Withdrawal period begins • March 18, Friday – Last day to drop • March 21, Monday – March 26, Saturday – Spring Break- No Class • April 29, Friday – Last class day
Cell Phones:	All electronic devices should be shut off during class. ***No Text Messaging!***
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment
Free Tutoring:	Free tutoring in Smith Music Hall 115 (10:00-4:00 PM Monday to Thursday and 10:00 to Noon on Friday) and in Smith Hall 620 (4:00 PM-6:00 PM Monday to Thursday). See the tutoring schedule in classroom board or contact the math department.
Disable Students:	The Disabled Student Services web site is now available. You may visit it at http://www.marshall.edu/disabled . Students seeking special accommodations need to follow the university policy detailed at this web site. It is their responsibility to initiate the process for receiving accommodations based upon their disability. If you have any questions or comments, please contact Sandra Clements, the Director of Disabled Student Services.
Coming Late:	Students should come on time and stay in the class for entire class. If you are late by more than 5 minutes, you will be considered to be absent.
GEAR	You are required to upload an artifact to GEAR.

Homework Problems

---------- HW 1 ----------
Section 1.1: 4, 8, 11, 16, 20, 23, 25, 36(a), 37, 44, 55, 59, 65, 66, 68, 74
Section 1.2: 3, 7, 9, 11, 15, 19, 23, 37
Section 1.3: 1, 12, 13-17, 27, 33, 35
Section 1.4: 15, 16, 19, 22, 51
Section 1.5: 2, 48, 10, 27-32, 35-37, 43, 47
Section 1.6: 2, 5, 8, 11-21, 27, 29, 31, 35, 36
Section 2.1: 1, 6, 11, 25
Section 2.2: 1, 3, 6, 9, **17**, **19**, **25**, 29, **41**, **47**, 51, 53, 55, 57
Section 2.3: 7, **11**, 19, **26**, 30
Section 2.4:**1**, **2, 3 4**, **5**, 6, 9, 12, **17**, **23**, 27, 29, **49**, **51**, **57**, 69, **79**
Section 2.5: **5-34** (odds), 37, **42**, 51, 54
Section 2.6: 2, **3**, 4, **7**, 11, **17**, 19, **21**, 23, **27**, 30, **33**, 36, **40**, 45, 51
Section 2.7: **1**, **2**, 4, **7-29** (odds), 35
---------- HW 2 ----------
Section 2.8: **1**, 3, **7**, 11, **14**, 17, **18**, 25
Section 3.1: **3**, 5, **13-16**, 17, 21, **29**, 33, 37, 41, **53**, 55
Section 3.2: 1, **5**, 7, 15, **17**, 20, 23, 27, **32**, 35, **43**, **49**, 66, 70
Section 3.3: 2, **3**, 7, **11**, 18, **23**, 27, 32, **33**, **39-42**, 50
Section 3.4: 1, 3, 5, 7, 11, 22, 27
Section 3.5: **3**, 7, 9, **14**, 19, **25**, 28, 29, 39, 40
---------- HW 3 ----------
Section 3.6: 1, 3, **5**, 7, **11**, 13, 17, 23, **24**, 29, 39, 43, 44
Section 3.7, 5, **7**, 9, 11, **13**, 15, **17**, **19**, 22, 24, 27, 29, **33**, 37, 39, **43**, **50**, 51, 58, 67, 87-90
Section 3.8: 3, **6**, **9**, **11**, 15, 17, **19**, **21**, 23, 25,**31**, **33**, **37**, 41, 51, 53, **57**, 64, 71,
Section 3.9: 1, **3**, 5, 7, **8**, 9, 11, 13, **17**, 20, 21, **25**, 29, 39, **43**, 44, **45**, 46, **47**, **49**
Section 3.10: 1, 2, **3**, 4, 5, **6**, **7**, 8, **9**, 10, **11**, 12, **13**, **14**, 15, **16**, 17 (from Handout)**5**,**9**, **13**, **17**, **21**, **25**, 39
Chapter Review (p190): 29-75 (all Odds), 95, 97, 99, 101, 103, 109, 111
---------- HW 4 ----------
Section 5.1: **7**, **11**,**13**, **20**, 24, 27, **29**, 35, 39, **48**
Section 5.2: 1, 7, 20, **39**, 51, **65**, 76
Section 5.3: 3, **5**, 7, 9, **15**, 19, 22, **26**, 30, 33, **36**, 41, **47**, **53**, 57, 61, **63**, 65, 68, 72, **77**
Section 5.4: 5, **7**, 13, 20, **25**, 31, 35, **42**, 43, 49, **54**, 55
Section 5.5: **4**, 6, **7**, 9, 11, **16**, 17, **19**, 21, 23, **28**, **32**, 33
---------- HW 5 ----------
Section 5.7: 1, 3, 5, **7**, 11, 12, **15**, 17, 18, **23**, 25, **29-74** (odds), **81**, 83, 93
Section 4.1: 1, **9**, **13**, 17, **20**, 24
Section 4.2: **3**, 7, 10, 13, **29**, **33**, 37, 41, 45, 51, **56**, **65**, 69
Section 4.3: **1**, 5, **17**, **18**, **19**, 20, 23, 24, **27**, **29**, 35, 41, 49, 52
Section 4.4: **1**, 2, **3**, 6, 9, **13**, 24, **27**, 31, 33, 37, **41**, 45, 53, **59**
---------- HW 6 ----------
Section 4.5: 1, **3**, 6, **9**, 11, **13**, 15, 16, **17**, 19, 21, **27**, 28, **35**, 41, **48**, **49**, **50**
Section 4.6: **1**, 2, 3, **7**, **15**, 19, **21**, 23, 31, 38, 43, 51, **52**, 53, **55**, 61
Section 4.7: 1, **2**, 3, **4**, 5, 6, **7**, **8**, **9**, **10**, **11**, 12, **13**, **14**, **15**, 16 (from Handout), **1**, **2**, **6**, 11, **13**, **19**, **23**, 27
Section 4.8: 3, 7, 9, 11, 15

Turn in at least boldface problems.
Due dates are Mondays after the Sections are covered.