

Prerequisite MATH 136, with a grade of C or better.

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Office Hrs MW 10:40 – 11:20; TR 11:45 – 12:40; or by appointment.

Course Description **MATH 137** is the second course in one-variable calculus including topics from analytic geometry. Topics include various methods of integration, sequences and series, polar and parametric functions. The course design includes lecture and recitation.

As a student, it is your responsibility to study, learn, and fully comprehend the material and problems that are presented to you in class and the problems that are assigned for homework. Your level of understanding should be deep enough so that you can completely and correctly work similar problems in a timed test situation. To learn the material properly, you must study. In addition to attending recitation classes, it is recommended that you spend a minimum of two hours of studying the material on your own between each lecture.

Text The official text is *Calculus of a Single Variable* by Larson and Edwards 5th Ed. Students may use this text as a reference and to obtain further examples and explanation of the material. However there will be no homework assignments from the text. Instead, students will receive a worksheet each day on the material covered in lecture. These worksheets can then be discussed during recitation sections.

Tests Each test will be based on class lectures and the distributed worksheets. Details of the tests will be outlined about a week and a half in advance of the tests, and another comprehensive review worksheet will be provided. The tests will be closed book, generally with no formula sheets allowed, no calculators and no computers allowed. Under no circumstances will students be allowed to use a TI-89 or any symbolic calculation software.

Tentative Test Dates

Test 1: Thurs Sep 11

Test 2: Tues Sep 30

Test 3: Tues Oct 21

Test 4: Thurs Nov 6

Test 5: Tues Nov 25

Final Exam: Thursday December 11 10:30 – 12:30

On test days, the classroom is a testing zone. Do not bring any open notes into the classroom. If you do so, then you will be asked to leave and you will not be given a test. Do not at any time look at or use your cell phone in the classroom. If you do so, then you will be asked to leave and your test will not be graded.

Make-Up Policy

Students are expected to take all tests in class when they are scheduled. I will not accommodate requests to re-schedule exams for students who wish to miss class to go do other activities. But if you must miss an exam due to a documented medical cause or tragedy, such as a heart attack, stroke, burst appendix, seizure, coma, broken femur, childbirth, earthquake, tornado, polar vortex, car wreck, kidnapping, etc., then I may consider giving you a make-up.

Attendance Policy

Registration in this course obligates you to be regular and punctual in class attendance. Upon your third unexcused absence, you will be notified that you have excessive absences and that your final grade will be an F. At that point, it will be too late to start with your excuses and I will not want to hear them.

Earning Credit

According to Federal guidelines and WKU accreditation requirements, (http://www.wku.edu/policies/aa_policies/engagement_requirements_for_hours_of_credit_1_4033.pdf), students must receive around four hours of instruction per week (excluding exam times) with about eight hours of work per week outside of class. If you miss class, then you are not receiving the requisite amount of instruction; therefore, you will not receive credit for the class. In other words, you will be given an F.

Additionally, according to the Federal guidelines, you are expected to study and do work outside of class. As previously mentioned, you should block about two hours of your time between each class to devote to this course.

During your scheduled study time, you should read over the material from the previous class and re-work the examples from class on your own; learn any definitions, theorems, or proofs that I specifically tell you to learn; then do any assigned homework problems. By studying and learning the material first, you will have much less difficulty doing homework problems and test problems compared to students who habitually do not look at the material at all for several days at a time.

Grading Policy

In order to receive a passing grade for this class, you must demonstrate that you have learned the material and that you have learned it well.

The five tests and the final exam each will count as 1/6 of the final grade, and final grades will be assigned as follows:

A: Average $\geq 93\%$ **B:** $85\% \leq \text{Avg} < 93\%$ **C:** $78\% \leq \text{Avg} < 85\%$

D: $75\% \leq \text{Avg} < 78\%$ **F:** $\text{Avg} < 75\%$

Withdrawal Date

October 15, 2014 is the *last* day to withdraw from the course with a grade of W or to change enrollment from credit to audit. But you may withdraw from the class any time you like before this date.

Disability Services

Students with disabilities who require accommodations, academic adjustments, and/or auxiliary aids or services for this course must contact the Office for Student Disability Services in DUC A-200. The OFSDS telephone number is 745-5004 (or 745-3030 TTY). Please do not request accommodations directly from the professor without a letter of accommodation from the Office for Student Disability Services.

Learning Outcomes

Successful students in the course will demonstrate proficiency in the ability to correctly work calculus problems on various topics that include:

- (i) Differentiation and integration of functions that involve inverse trigonometric functions, hyperbolic trig functions, and inverse hyperbolic trig functions
- (ii) Integration techniques such as integration by parts and integration by partial fractions
- (iii) Improper integrals
- (iv) Surface areas, arclengths, centers of gravity, and probability density functions
- (v) Convergence and divergence of sequences and infinite series, including use of the ratio test and nth root test
- (vi) Power series and Taylor series expansions of functions
- (vii) Parametric and polar equations