SYLLABUS

MAT 137 **Calculus II**
Spring, 2009

College of Engineering, Forestry, and Natural Sciences
Dept. of Mathematics and Statistics
1:50 – 2:40 pm, MWThF
4 credit hours

Lecturer: Michael Falk, Professor of Mathematics Office: AMB 132, 523-6891
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Personal web page: http://www.cefns.nau.edu/∼falk
Course web page: http://www.cefns.nau.edu/∼falk/classes/137/index137.html
Online notes: http://tutorial.math.lamar.edu/
WeBWork page: http://balance-webwork.math.nau.edu/webwork2/MFalk_137/

Office hours: MF 4:00 – 5:00, TWTh 3:00 – 4:00.
I'm also available to students at other times during the week; no appointment necessary.
Virtual office hours - I encourage students to e-mail me with questions - my e-mail address is given above. I will respond quickly.

Web page and e-mail: The course web page given above will include links to exams and problem sets, hints and solutions, study outlines, and other useful information. In case I want to communicate with the entire class, I will express myself on the web page. I will not use the Vista shell, except to procide a link to the course web page.
I will also send occasional e-mails to the entire class. If at some point you decide you do not wish to receive these e-mails, please let me know. Make sure I have an e-mail address for you that is checked regularly.

Prerequisite: Grade of C or better in MAT 136.

Text: There is no text for this course. This course will follow some of the Calculus I, Calculus II, and Differential Equations chapters of *Pauls' Online Math Notes*, which can be found at the url http://tutorial.math.lamar.edu/.

Course Description: In this course we will study some tools, techniques, and applications of one-variable differential and integral calculus. These will include: applications of definite integral, techniques of integration, numerical integration, elementary differential equations, infinite sequences and series, including power series and Taylor series, and 3-dimensional vector geometry.

Course outline: We will begin with a review of definite integrals, and then study applications of definite integral, using the relevant chapters of the Calculus I notes. We will then study techniques of integration, and more applications of integrals from the first two chapter of the Calculus II notes. We will cover the first two sections from the parametric equations and polar coordinates chapter, and proceed to study elementary differential equations, using parts of the first two chapters of the Differential Equations notes. We will then study infinite sequences and series, and vectors in two- and three-dimensional space, using the corresponding Chapters from the Calculus II notes.

Student Learning Outcomes: Students successfully completing this course will have a conceptual and operational understanding of the ideas of one-variable calculus and will be able to apply them to solve problems and do analytical computations, both by hand and using mathematical software.

Evaluation: Grades will be based students' efforts, abilities, and background as reflected in their performance on homework and exams worth a total of 500 points. There will be three midterm exams worth 60, 65, and 75 points respectively, and a *cumulative* final worth 110 points. There will be eight problem sets worth 10 points each and 2-4 group projects worth a total of 30 points. There will be regular WeBWork assignments - totals will be rescaled to 40 points at the end of the semester. There will be practice problems distributed in class, collected and checked for completeness, but not graded. Finally, attendance will be taken in several randomly-chosen class periods, and scaled to 20 points. Here is a summary:

Midterm exams (3): 200 points, (40%); Final exam: 110 points (22%); Problem sets: 80 points (16%); WeBWork: 40 points (8%); Projects: 30 points (6%); Exercises: 20 points (4%); Attendance: 20 points (4%).

In particular, *homework accounts for over 30% of the course grade.* Thus it is crucial that students hand in assigned homework, especially problem sets and projects, to be successful in this class.

At the end of the semester, I will decide how to translate the numerical scores into letter grades, based on clusters and natural breaks in the distribution of students' overall point totals. Based on my experience in previous classes, I have set the following benchmarks: A – 440 points (88%); B – 375 points (75%); C – 300 points (60%); D – 275 points (55%). Students are guaranteed, if they reach these levels, they will receive the corresponding grade, at a minimum. In reality, the cutoffs are usually somewhat lower than this.

Students may obtain information on class standing from me at any time. After each exam, I will produce a "provisional curve" to indicate to the class what grades I might give at various points during the semester, but these intermediate curves have no bearing on final grades.

Course policies : *Students may bring one sheet of notes to consult during exams.* This is a blanket policy, and will apply even if it is not explicitly announced in class. Three to four pages of notes will be allowed for the final exam. *Calculators of any sort are allowed, unless otherwise instructed.* I reserve the right to require you to complete a portion of exams or homework sheets without the benefit of a calculator.

Students are encouraged to work together and to seek assistance from the lecturer on all homework. It is expected that all written homework will be composed and written individually by each student in a concise, grammatically correct, and readable form. Late homework will be accepted three times during the semester, on the Wednesday after each exam, and will receive 1/2 credit.

Classroom decorum : Attendance in class is essential to the successful completion of the course, but is not required. Students in class are expected to be attentive and engaged, and respectful of the lecturer and other students. Interaction with fellow students and with the lecturer is encouraged, but extensive side conversations are extremely distracting to the lecturer and to other students, and should not occur in class. Offending students will receive a gentle reminder. When you arrive in class, please turn off your cell phones. When the class starts, please end your conversations.

Tentative exam dates:

Exam 1	Friday 2/13
Exam 2	Friday 3/13
Exam 3	Friday 4/17
Final Exam	Wednesday 5/6, 12:30 – 2:30 pm

Exams cover material presented in class and on assigned homework, through the class period prior to the exam. Precise coverage will be announced in class in advance of the exam.

Other important dates :

Friday Jan. 23	last day to add, change to audit, file for grade rplcmt.
Friday February 6	last day to drop/delete
Tuesday March 10	midsemester grades submitted
Friday March 13	last day to drop with a "W"
Mon - Fri March 16-20	Spring Break
Friday May 1	Last day of classes

NORTHERN ARIZONA UNIVERSITY
DEPARTMENT OF MATHEMATICS AND STATISTICS
UNIVERSITY AND DEPARTMENT POLICIES – SPRING 2009

Course Prerequisites and Placement: Prior to enrollment in a course in the Department of Mathematics and Statistics a student must have completed the course prerequisites or have proper placement for the course. It is the students' responsibility to check that they are properly enrolled in a course and to drop the course if they are not. Failure to do so could result in not receiving credit for the course. The department may cancel students' registration in a course in which they are not properly enrolled. However, it is the student's responsibility to monitor their own enrollment.

Administrative Drops: An instructor may administratively drop from a course any student who does not attend the first two class meetings. Students who have not met all prerequisites for a course may be administratively dropped. However, it is the student's responsibility to monitor their own enrollment.

Class Attendance: Students are expected to assume full responsibility for class attendance and are accountable for work missed because of absences. Instructors are under no obligation to make special arrangements for students who have been absent unless such absence has been excused by a formal institutional excuse. Institutional excuses permit a student to be absent from classes to represent the University in athletics and extracurricular or academic activities. Institutional excuses must be hand-delivered to the instructor and arrangements made for the work missed prior to the planned absence from class.

Dropping/Auditing a Course: The last day you may drop a course (and receive a **W)** is **March 13, 2009.** Academic policy requires that a student who never attended class or stopped attending class receive an **F** should the student fail to officially drop the course. The deadline to change from credit to audit or vice versa is **January 23, 2009**. Once a student has registered and completed a class as an auditor, the audit grade cannot be changed to a credit-earning grade. The grade of **AU** is awarded to auditors for satisfactory attendance. See the most recent *Undergraduate Catalog* for more information at http://www4.nau.edu/academiccatalog/2008/academiccatalog.htm

The Grade of Incomplete: A grade of **I** is given by an instructor only if a student is unable to finish a course due to extraordinary, unforeseeable circumstances, and the deadline to drop has passed. An incomplete is only given to a student who was passing the course with a grade of **C** or higher at the time the student was forced to stop attending. Before a grade of **I** can be given the student and instructor must complete the official department form indicating the work to be completed, as well as the date(s) by which the work must be completed. A grade of **I** not removed within a one-year period automatically reverts to a grade of **F**.

End of Semester Week: The Department of Mathematics and Statistics has been granted exemption from the University End of Semester Week policy and has explicit university approval to schedule tests during End of Semester Week.

Final Examinations: Final examinations are required in all classes and must be given at the scheduled times and dates indicated in the university final exam schedule. An exception to the official Final Examination Schedule can be made if a student is scheduled to take more than two examinations in one day.
See http://home.nau.edu/registrar/calendars/FinalExam1101.asp for more information.

Other University Policies
Students are responsible for the following policies: Safe Environment, Students with Disabilities, Institutional Review Board, Academic Integrity, and Academic Contact Hour. A copy of these policies may be downloaded from the web site http://www2.nau.edu/academicadmin/UCCPolicy/plcystmt.html.

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