

Fayetteville State University
College of Arts and Sciences
Department of Mathematics and Computer Science
Applied Calculus MATH 140-04
Spring 2012

I. Locator Information

Instructor: Dr. Zhenlu Cui

Course Number and Name: MATH140-4, Applied Calculus

Semester Credit Hours: 4

Time and Place Class Meets: MWF 2:30 - 3:45pm, SBE 212

Total Contact Hours for Class: 60

Email address: zcui@uncfsu.edu

Office Location: SBE307D

Office hours: MWF 10:00am-12:30pm & F 1:45--2:15pm or by appointment

Office Phone: 910-672-1164

FSU Policy on Electronic Mail: Fayetteville State University provides to each student, free of charge, an electronic mail account (username@uncfsu.edu) that is easily accessible via the Internet. The university has established FSU email as the primary mode of correspondence between university officials and enrolled students. Inquiries and requests from students pertaining to academic records, grades, bills, financial aid, and other matters of a confidential nature must be submitted via FSU email. Inquiries or requests from personal email accounts are not assured a response. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail.

Rules and regulations governing the use of FSU email may be found at
<http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf>

II. Course Description:

A course in calculus applicable to business and the social sciences incorporating a review of college algebra and studies of linear equations, functions and their limits, derivations, applications of the derivatives, exponential and logarithmic functions, antiderivatives, definite integrals and applications, and numerical techniques and applications.

Prerequisite: MATH 123 or MATH 131

III. Disabled Student Services

In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ACA) of 1990, if you have a disability or think you have a disability to please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910-672-1203.

IV. Textbook: Calculus For business, Economics, Life Science, and Social Science, 11th ed., Raymond Barnett, Michael Ziegler, Karl Byleen, Upper Saddle River, NJ 07458, Prentice Hall 2008

Notice that:

- **Students receive no refund for withdrawing from individual classes and they slow their progress toward degree completion.**
 - **Students who withdraw from or fail more than one-third of their classes will no longer be eligible for financial aid.**
 - **STUDENTS MUST STRIVE TO EARN CREDIT FOR ALL THE CLASSES IN WHICH THEY ENROLL. STUDENTS SHOULD WITHDRAW FROM CLASSES ONLY WHEN IT IS ABSOLUTELY NECESSARY.**
- c. Graded Assignments -- There will be homework, four tests, and a comprehensive final exam (see the schedule). The weight given to various activities for evaluation is as follows: tests-50%, Class attendance and participation 10 %, final exam-20%, and homeworks-20%. There will be some extra credit from unannounced quizzes.
- d. Policy on **Missed** or **Late Assignments** - Late homework will no longer be accepted after it has been graded and returned to class. If homework is given to me the day after it is due, it will lose 20% of its total value. For two days delay it will lose 40% of its total value and so on. . **No make up tests for unexcused absences! For excused absences student should contact the instructor prior to the test!**
- e. Other - Dishonesty on graded assignments will not be tolerated. Students must neither give nor receive help on any work to be graded. The University policy on cheating will be applied to any violations. The minimum penalty will be a grade of zero on the assignment (including tests).

Please note: If these evaluation criteria must be revised because of extraordinary circumstances, the instructor will distribute a written amendment to the syllabus.

Student Behavior Expectations: -The instructor will respect all students and will make every effort to maintain a classroom climate that promotes learning for all students. Students must accept their responsibility for maintaining a positive classroom environment by abiding by the following rules:

1. Students are expected to arrive to class on time, remain in class until dismissed by the instructor, and refrain from preparing to leave class until it is dismissed.
2. Student/teacher relationships, as well as relationships among peers, must be respectful at all times.
- 3 Students are not permitted to wear headphones or other paraphernalia that may be distracting to the classroom environment.
4. Students must refrain from any activity that will disrupt the class; this includes turning off cell phones and pagers.
5. Students are not permitted to use profanity in the classroom.

6. Students will not pass notes or carry on private conversations while class is being conducted. Graphing calculator not bigger than TI-84

Consequences for Failing to Meet Behavioral Expectations: The first time a student violates one of these rules, the instructor will warn him or her privately, either after class or before the next class. (Faculty members reserve the right to warn students publicly if needed.) The second time a student violates the guidelines, the instructor may deduct as many as twenty points from the student's next exam grade. If a student violates the guidelines three times, the instructor will report the student to the Dean of Students for disciplinary action according to the FSU Code of Student Conduct.

- The students are expected to study each lesson, complete all assignments, and spend adequate time on class work to insure success in the course. At least one hour of study is expected for each class hour.
- It is the responsibility of the students to avail themselves at all class meetings and obtain additional help as needed.
- Students are expected to enter the classroom on time and remain until the class ends. **Late arrivals and early departures without appropriate excuses will not be tolerated.**
- Each student is encouraged to participate in class discussion for a clearer understanding and **meet with the instructor when additional assistance is needed.**
- All class discussions should be done in a soberly, orderly, and respectful manner

VII. Academic Support Resources. Use of MathXL, Smarthinking, University College Learning Center

MathXL code: [XL0T-X1KG-801Y-7ZV2](#)

VIII. Course outline:

Section	Description
1.1	Linear Equations and Inequalities
1.2	Graphs and Lines
1.3	Linear Regression
2.1	Functions
2.2	Elementary Functions; Graphs and Transformations
2.3	Quadratic Functions
2.4	Exponential Functions
2.5	Logarithmic Functions
	Test # 1
3.1	Introduction to Limits
3.2	Continuity
3.3	Infinite Limits and Limits at Infinite
3.4	The Derivatives
3.5	Basic Derivatives

3.6	The Differentiation Properties
3.7	Marginal Analysis in Business and Economics
	Test # 2
4.1	The Constant e and Continuous Compound Interest
4.2	Derivatives of Exponential and Logarithmic Functions
4.3	Derivatives of the Product and Quotient Rule
4.4	The Chain Rule
4.5	Implicit Differentiation
4.6	Related Rates
4.7	Elasticity of Demand
	Test # 3
6.1	Anti-derivative and Indefinite Integrals
6.2	Integration by Substitution
6.3	Differential Equations; Growth and Decay
6.4	The Definite integral
6.5	The Fundamental Theorem of Calculus
	Test # 4
7.1	Area Between Curves
7.2	Applications in Business and Economics
	Review
	Final Exam: TBA

IX. Teaching strategies: The teaching strategy for the course will vary depending upon the learning styles and strengths of the students enrolled. It is expected that the instructor will place emphasis on lectures, discussions, review and analysis, graphing calculator usage, and cooperative learning.

X. Bibliography:

APPLIED CALCULUS for Business, Economics, Life Sciences, and Social Sciences, 9th Edition – by Laurence D. Hoffmann and Gerald L. Bradley, McGraw Hill, ISBN: 0-07-326896-8