

**Fayetteville State University**  
**College of Arts and Sciences**  
**Department of Mathematics and Computer Science**  
**Applied Calculus\_MATH 140**  
**Fall 2011**

**“In case FSU must close for an emergency during the semester, instruction will continue using Blackboard.”**

### **I. Locator Information**

Instructor:

Course Number and Name: MATH140, Applied Calculus

Semester Credit Hours: 4

Day, Time and Place Class Meets:

Total Contact Hours for Class: 45

Email address:

Office Location:

Office hours:

Office Phone:

**FSU Policy on Electronic Mail:** Fayetteville State University provides to each student, free of charge, an electronic mail account ([username@uncfsu.edu](mailto: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, anti-derivatives, 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 (1<sup>st</sup> Floor); 910-672-1203.



limit of **four (4) unexcused absences** will result in an interim grade **EA = EXCESSIVE ABSENCES**. When a student enters the classroom after the roll call, it is the responsibility of the student to inform the instructor after class that (s)he was in attendance. You must notify the instructor when it is necessary for you to leave early.

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%, quizzes-10 %, final exam-20%, and homeworks-20%.
- 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.

**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 in violation of the FSU Code of Student Conduct.

- Pre-requisite: MATH 123 or MATH 129 or MATH 130 or MATH 131, or equivalent.
- MathXL Course ID: .....
- Graphing calculator not bigger than TI-84
- 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

**VIII. Course outline:**

<b>Section</b>	<b>Description</b>
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
	<b>Test # 1</b>
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
	<b>Test # 2</b>
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

4.7	Elasticity of Demand
	<b>Test # 3</b>
5.1	First Derivatives and Graphs
5.2	Second Derivatives and Graphs
5.3	Absolute Maxima and Minima
5.6	Optimization
	<b>Test # 4</b>
6.1	Anti-derivative and Indefinite Integrals
6.2	Integration by Substitution
6.4	The Definite integral
6.5	The Fundamental Theorem of Calculus
	<b>Test # 5</b>
7.1	Area Between Curves
7.2	Applications in Business and Economics
	Review
	<b>Final Exam: TBA</b>

**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, 9<sup>th</sup> Edition – by Laurence D. Hoffmann and Gerald L. Bradley, McGraw Hill, ISBN: 0-07-326896-