I. LOCATION INFORMATION:
Instructor’s name: Dr. Bo Zhang  Office Location: Sci & Tech 221
Course Number & Name: Math 142-02 Calculus with Analytic Geometry I
Semester Hours of Credit: 4
Total Contact Hours for Class: 75
Time Class Meets: MF: 2:00-3:15pm. Where class meets: SciTec 238
Lab: W: 2:00-3:30p. (SciTec 238)
WebAssign.net class key: uncfu 6626 0252
Office Telephone: 672-1786
E-mail Address: bzhang@uncfsu.edu
Website: http://faculty.uncfsu.edu/bzhang
Office Hours: MWF: 12:00-2:00pm & TR: 6:30-7:30pm
Department Office Location: SciTec 205
Department Office Telephone: 672-1294

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:
The first course of a three-semester sequence in calculus with analytic geometry, including studies of graphs, functions,
limits, differentiation, and applications of differentiation, integration, and applications of the definite integral.
Prerequisite: Math131 or equivalent.

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); Tel: 910-672-1203.

IV TEXTBOOK:
(b) CALCULATOR: Graphing Calculator
V. TITLE IX – SEXUAL MISCONDUCT

Fayetteville State University (University) is committed to fostering a safe campus environment where sexual misconduct — including sexual harassment, domestic and dating violence, sexual assault, and stalking - is unacceptable and is not tolerated. The University encourages students who may have experienced sexual misconduct to speak with someone at the University so that the University can provide the support that is needed and respond appropriately. The Sexual Misconduct policy can be found at the following link: http://www.uncfsu.edu/Documents/Policy/students/SexualMisconduct.pdf

Consulting with a Health Care Professional - A student who wishes to confidentially speak about an incident of sexual misconduct should contact either of the following individuals who are required to maintain confidentiality:

Ms. Pamela C. Fisher
Licensed Professional Counselor
Spaulding Building, Room 165
(910) 672-387
psmith@uncfsu.edu

Ms. Linda Melvin
Director, Student Health Services
Spaulding Building, Room 121
(910) 672-1454
lmelvi10@uncfsu.edu

Reporting an Incident of Sexual Misconduct - The University encourages students to report incidents of sexual misconduct. A student who wishes to report sexual misconduct or has questions about University policies and procedures regarding sexual misconduct should contact the following individual:

Ms. Victoria Ratliff
Deputy Title IX Coordinator for Students
Spaulding Building, Room 155
(910) 672-1222
vratliff@uncfsu.edu

Unlike the Licensed Professional Counselor or the Director of Student Health Services, the Deputy Title IX Coordinator is legally obligated to investigate reports of sexual misconduct, and therefore cannot guarantee confidentiality, but a request for confidentiality will be considered and respected to the extent possible.

Students are also encouraged to report incidents of sexual misconduct to the University’s Police and Public Safety Department at (910) 672-1911.

VI. STUDENT LEARNING OUTCOMES:

Upon completion of this course, students will be able to:

Demonstrate the ability to solve limit and derivative problems in connection with the tangent line to a curve and the velocity of an object.

Demonstrate the knowledge of differentiation rules with related concepts and the ability to apply L’Hospital’s Rules to find a limit.

Demonstrate the ability to apply the concepts of derivative and rate of change to various practical problems such as Newton’s Method in numerical analysis and optimization in applied sciences.

Demonstrate the knowledge of integration theory and the Fundamental Theorem of Calculus.

Demonstrate the ability to apply the integration technique and use mathematical software such as MapleV to solve practical problems.

FSU CORE STUDENT LEARNING OUTCOME:

Reasoning Skills- Quantitative Reasoning: Students will apply mathematics to situations common in everyday living. They will calculate, interpret, and assess statistical data and concepts, percentages, proportions, rates of change, geometric measures, linear equations, probability and risk.
VII. Course Requirements and Evaluation Criteria:

Major tests or projects will be given at the completion of each chapter. The lowest chapter test grade will be dropped. A comprehensive final will be given at the conclusion of the course. The grading scale and weights given to various activities for evaluation are listed below.

Tests - 50%, Homework (WebAssign) - 20%, Projects & Class Commitment 10%, Final Exam – 20%

A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F= below 60%

Course Requirements:

1. It is the responsibility of the students to avail themselves of all class meetings, tutorial sessions, and individual help from their instructors. Additional tutorial services are provided by Student Services in the Helen T. Chick Building. There are Computer software tutorials available for your use in the Helen T. Chick Building, 2nd Floor and SBE 214.

2. Students are responsible for maintaining a notebook of problems selected by the instructor. Students are encouraged to include as many additional problems as possible.

3. There are four chapter tests. All tests will be announced well in advance of their administration. A make-up test will be given only if the student has a documented and valid written justification for unavoidable absence from the test. There is no more than one make-up exam for each student during the semester. The final examination is cumulative, i.e., it covers the contents of all chapters.

4. Students are expected to enter the classroom on time and remain until the class ends. The attendance in lecture and lab is required. Three late arrivals and early departures will constitute an absence from the class. The detailed attendance policy may be found in the FSU Catalogue 2014-2015.

5. Students must refrain from smoking, eating and drinking in the classroom. The rights of others must be respected at all times.

6. Students are encouraged to ask questions of the instructor in class and to respond to those posed by the instructor. They should not discourage others from raising or answering questions. Often, other students have the same questions which they wish to ask, but are hesitant to do so.

7. Students are expected to complete all class assignments and to spend adequate time on their class work to insure that the course outcomes are met. At least two hours of home study is expected for each class hour.

8. Talking in class between students is strictly unacceptable. Discussions should be directed to the instructor.

9. Dishonesty on graded assignments will not be tolerated! Students must neither give nor receive any assistance on any work to be graded. the University's cheating policy will be applied for any violations. The minimum penalty will be a grade of zero (0) on the assignment.
VIII. COURSE OUTLINE (SEE ATTACHED SCHEDULE)  
* SUBJECT TO CHANGE FOR THE OPTIMUM BENEFIT OF THE CLASS

IX. Teaching Strategies:

The majority of the material of the course will be given in lecture format. There is a short review before and after each lecture. There will be a comprehensive review after the completion of each chapter. Graphing calculators will be used in the class to help students develop a firm grasp of the underlying mathematical concepts. A help session will be set up after the first week to provide tutorial assistance for students in this class.

X. References and Academic Support Resources:


Academic Assistance Program “Smartthinking” is available to all FSU students; access through http://blackboard.uncfsu.edu. Mathematical software such Maple V and Mathematica are installed in FSU Computer Labs.
*VIII  Course outline

Dates  Lectures
-------------------------------------------------------------------------
MON: 1/12  [1.1] Four ways to represent a function
        [1.2] Mathematical models  [1.3] New functions ... 
WED: 1/14  [1.4] Graphing cal... Lab#1
FRI: 1/16  [1.5] Exponential functions [1.6] Inverse functions ...  
        [1.7] Parametric curves
-------------------------------------------------------------------------
MON: 1/19  Martin Luther King Birthday Holiday
WED: 1/21  [2.1] The tangent and velocity problems-- Lab#2
FRI: 1/23  [2.2] The limit of a function
        [2.3] Calculating limits using the limit laws
-------------------------------------------------------------------------
MON: 1/26  [2.4] Continuity
WED: 1/28  [2.5] Limit involving infinity-- Lab#3
FRI: 1/30  [2.6] Derivatives and rate of change
-------------------------------------------------------------------------
MON: 2/02  [2.7] The derivative as a function
WED: 2/04  [2.8] What does f’ say about f?-- Lab#4
FRI: 2/06  Exam #1
-------------------------------------------------------------------------
MON: 2/09  [3.1] Derivatives of Polynomials and Exponential function
WED: 2/11  [3.2] The product and quotient rules -- Lab#5
FRI: 2/13  [3.3] Derivatives of Trigonometric functions
-------------------------------------------------------------------------
MON: 2/16  [3.4] The Chain Rule
WED: 2/18  [3.5] Implicit differentiation -- Lab#6
FRI: 2/20  [3.6] Inverse Trigonometric functions and their derivatives
-------------------------------------------------------------------------
MON: 2/23  [3.7] Derivatives of Logarithmic functions
WED: 2/25  [3.8] Rates of change in natural and social sciences-- Lab#7
FRI: 2/27  Exam #2
-------------------------------------------------------------------------
MON: 3/02  [3.9] Linear approximation and differentials
WED: 3/04  [4.1] Related rates--Lab#8
FRI: 3/06  [4.2] Maximum and minimum values (Spring Break 3/09-3/13)
-------------------------------------------------------------------------
MON: 3/16  [4.3] Derivatives and the shapes of curves
WED: 3/18  [4.4] Graphing with calculus and calculators-- Lab#9
FRI: 3/20  [4.5] Indeterminate forms and L’Hospital’s rule
-------------------------------------------------------------------------
MON: 3/23  [4.5] Indeterminate forms and L’Hospital’s rule
WED: 3/25  [4.6] Optimization problems-- Lab#10
FRI: 3/27  Exam #3
-------------------------------------------------------------------------
MON: 3/30  [4.7] Newton’s Method
WED: 4/01  [4.8] Antiderivatives-- Lab#11
FRI: 4/03  Spring Holiday
-------------------------------------------------------------------------
MON: 4/06  [5.1] Areas and distances, 
WED: 4/08  Lab#12
FRI: 4/10  [5.2] The definite integral
-------------------------------------------------------------------------
MON: 4/13  [5.2] The definite integral
WED: 4/15  Lab#13
FRI: 4/17  [5.3] Evaluating definite integrals
-------------------------------------------------------------------------
MON: 4/20  [5.4] The fundamental Theorem of Calculus
WED: 4/22  Review:Exam#4-- Lab#14
FRI: 4/24  Exam #4
-------------------------------------------------------------------------
MON: 4/27  Review for Final Exam
WED: 4/29  Lab#15
FRI: 5/01 Reading Day
-------------------------------------------------------------------------
MON: 5/04 Final Exam (2:00-3:50pm)