

**Fayetteville State University**  
**College of Arts and Sciences**  
**Department of Mathematics and Computer Science**  
**MATH 241 – 01 Calculus with Analytic Geometry**  
**Fall 2009**

**I. Locator Information:**

**Instructor:** Dr. Z.Cui

**Course # and Name:** MATH 241 – 01 Calculus with Analytic Geometry

**Office Location:** SBE 307D

**Semester Credit Hours:** 4

**Office hours:** 12- 1pm, 2:20-4pm, MWF or by Appointment.

**Day and Time Class Meets:** MWF 1:00 pm – 2:15 pm, SBE 109

**Office Phone:** (910) - 672 1164

**Total Contact Hours for Class:** 4

**Email address:** [zcui@uncfsu.edu](mailto:zcui@uncfsu.edu)

**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:** The second course of a three-semester sequence in calculus with analytic geometry, including studies of differentiation and integration; techniques of integration, improper integrals, applications of integrals, differential equations, infinite series, and analytic geometry. Prerequisites: MATH 142

**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.

**III. TEXTBOOK:** James Stewart, Calculus Concepts and contexts, Thomson Brooks Cole Company, 3<sup>rd</sup> edition

**V. Student Learning Outcomes** – This course provides necessary background in calculus for students in sciences. After the completion of this course, students will be able to

1. Use graphs, tables, and formal methods to evaluate integrals involving elementary functions such as polynomial, rational, trigonometric, exponential, logarithmic functions.
2. Use rules for integrating elementary functions.
3. Evaluate integral using symbolic methods and technology.
4. Apply the integral to problems involving area, volume, arc length, etc.
5. Solve some differential equations.
6. Use iterative and recursive techniques to solve sequence and series problems.
7. Use computers and graphing calculators to explore mathematics.
8. Formulate and solve problems from both mathematical and everyday situations.
9. Use calculators or computers to solve a math or real-world problem.

## VI. Course Requirements and Evaluation Criteria

### COURSE REQUIREMENTS

1. Students are expected to attend all class sessions. Excessive absences may result in a reduction of your final grade.
2. All tests will be announced prior to their administration. A make-up exam will be given only if the student has a documented and valid written justification for unavoidable absence from the exam. There is no more than one make-up exam for each student during the semester. Each student is required to attend the departmental colloquium at least three times during the semester as part of the project.
3. 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 asking or answering questions.
4. Students are expected to complete all class assignments, to spend adequate time on their class work, and to read each topic prior to class discussion to insure that the course outcomes are met. At least two hours of home study is expected for each class.
5. **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.

### Grading policy

There will be chapter tests, quizzes/homework and a comprehensive final exam. The grading scale and weights given to various activities for determining the course grade are given below.

- \* Four tests will count as 60% of your overall grade (the lowest test will be dropped).
- \* Quizzes/Homework will count as 15%.
- \* The final exam will count as 25%.
- \* **Bonus may be given for active class participating such as showing their work on board.**

To see how your grade will be calculated, suppose your test scores are 91, 72, 84, 90, and 83, your homework average is 90, and you score an 85 on the final exam. Since the lowest test grade is dropped your grade would be calculated as follows:

$$0.6 \times [(91 + 84 + 90 + 83) / 4] + (0.15 \times 90) + (0.25 \times 85) = \mathbf{76.95}$$

Since 77 is between 70 and 79, you would receive a grade of C.

<b>A</b>	90 -100%	<b>Tests</b>	60%
<b>B</b>	80 - 89%	<b>Quizzes/Homework</b>	15%
<b>C</b>	70 - 79%	<b>Final Exam</b>	25%
<b>D</b>	60 - 69%		
<b>F</b>	below 60%		

**VII. Academic Support Resources** – one-on-one tutoring is available at University College Learning Center (HTC 216 –C) <http://www.uncfsu.edu/learningcenter/math/>. University College Learning Center is open 8:00 a.m. to 8:00 p.m. Monday through Thursday and 8:00 a.m. to 5 p.m. on Friday. Also 24/7 Academic Assistance program “**Smarthinking**” is available to all FSU students; access through <http://blackboard.uncfsu.edu>. Extra help or tutoring, provided by a graduate assistant may be available through the department of Mathematics and Computer Science. Please see Ms. Briggs at SBE 339 (Tel. 910-672-1294) for detail information.

## VIII. COURSE OUTLINE

*\*The instructor may modify this schedule as needed to best meet the course objectives and student needs.*

- Week 1: 5.1, 5.2, 5.3
- Week 2: 5.4, 5.5, 5.6
- Week 3: 5.7, 5.8, 5.9
- Week 4: 5.10, Review, **Test #1**
- Week 5: 6.1, 6.2, 6.3,
- Week 6: 6.4, 6.5,
- Week 7: 6.6, Review, **Test #2**
- Week 8: 7.1, 7.2
- Week 9: 7.3, 7.4, 7.5
- Week 10: 7.6, **Review, Test #3**
- Week 11: 8.1, 8.2, 8.3
- Week 12: 8.4, 8.5, 8.6
- Week 13: 8.7, 8.8
- Week 14: 8.9, Review, **Test #4**
- Week 15: Review for the final

**Final Exam:** Final exam date will be posted soon at: <http://www.uncfsu.edu/registrar/>.  
 Information on other important dates and holidays is available on *Academic Calendar* via:  
<http://forms.uncfsu.edu/scripts/publish/webevent.pl?cmd=openca&cal=cal2>

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

#### **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 Calculator and some math software could be used in the class to help students develop a firm grasp of the underlying mathematical concepts.

#### **X. Bibliography**

- Anton B. Davis, Calculus, John Wiley & Sons, Inc. New York, 2002 (7<sup>th</sup> Ed.).
- Earl W. Swokowski, Calculus with Analytic Geometry, PWS-Kent Publishing company, 1994 (6<sup>th</sup> Ed.).
- C. H. Edwards and D. J. Foulis, Calculus with Analytic Geometry, Worth Publishers Inc., New Jersey, 1997 (5<sup>th</sup> Ed.).
- Denis D. Berkey and Paul Blanchard, Calculus of One Variable, Harcourt Brace College Publishers, 1997 (3<sup>rd</sup> Ed.).
- S. I. Grossman and R. B. Lane, Calculus, Saunder College Pub. 1997 (5<sup>th</sup> Ed.).
- G. B. Thomas and R. L. Finney, Calculus with Analytic Geometry, Addison-Wesley Pub., 1996 (9<sup>th</sup> Ed.).