

Math 431 Advanced Calculus

Instructor: Dr. Wei-Chi Yang

Class Meeting Days and Times: MWF 8-8:50. WH003.

Zoom link <https://radford.zoom.us/j/2868245247>

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Catalog Entry

MATH 431 ADVANCED CALCULUS

Three hours lecture, three hours credit for each course (3:3).

Prerequisite: Math 252 and Math 260.

A systematic modern approach to the differential and integral calculus of one and several variables, including standard theorems and analytical techniques of mathematical analysis.

Course Content: <http://math.kennesaw.edu/~jlewin/CUP/marielle.pdf>

Detailed Description of Content of Course

The course will cover the following topics:

1. Continuous functions
2. Maximum and minimum
3. Intermediate value theorem
4. Uniform Continuity
5. Functions of bounded variation
6. Differentiation
7. Mean value theorem

8. Taylor's theorem

9. Integration

10. Sequences and series of functions

Detailed Description of Conduct of Course

This is a lecture-based course. Students will develop an understanding of the material by working exercises. Some instructors may require students to make presentations.

Goals and Objectives of the Course

This course is primarily for mathematics majors. Its goals and objectives are:

1. to develop an understanding of the structure of the real number system,
2. to develop an understanding of the theory of calculus,
3. to improve the student's skills in the mathematical methods, including the logical and orderly presentation of proofs.

Assessment Measures

Assessment measures include a final examination and may include any of the following:

homework assignments, in-class tests, quizzes, exercises, in-class presentations and research papers.

Method of Evaluation:

Grading: The following grading scale will be

used: 90-100 = A

80-89 = B

70-79 = C

60-69 = D

0-59 = F

Note. A = 100-93, A- = 92.9-90, B+ = 89.9-87, B = 86.9-83 and so on.

Tests and Exams: No makeup exams will be allowed unless a proper document is provided.

Homework (40%); Tests (40%), Final (20%)

From Center for Accessibility Services (CAS): Students seeking academic accommodations under the Americans with Disabilities Act must register with the Center for Accessibility Services (CAS) to determine eligibility. Students qualified for academic accommodations will receive accommodation letters and should meet with each course professor during office hours, to review and discuss accommodations. To begin the registration process, complete a Student Registration Form and submit documentation to PO Box 6902, Radford, Virginia 24142, or deliver to the Russell Hall, Room 325, by fax to 540-831-6525, or by email to cas@radford.edu (See documentation guidelines). For more information, visit the Center for Accessibility Services (CAS) website or call 540-831-6350.

Honor Code All tests and the final must be pledged. The Honor Code will be strictly enforced in this course.