



## Nanchang University MATH 22: Calculus II

**Credit:** 4

### ***Contact Hours***

This course is composed of 24 lecture sessions, 3 tutorial sessions and 9 office contact hours. Each lecture session takes 2 contact hours in length; each tutorial session takes 3 contact hours in length; There will be a Q-A review session(3 contact hours) and Final Exam (3 contact hours) at the end of this term. This course has 72 contact hours in total.

### ***Course Description***

The course begins with applications and techniques of integration. It probes notions of limit and convergence and ads techniques for finding limits. Half other course covers infinite sequences and series, where the basic question is: What meaning can we attach to a sum with infinitely many terms and why might we care? The course can help students improve their ability to reason abstractly and also teaches important computational techniques. Topics include integration techniques, l'Hôpital's rule, improper integrals, geometric and other applications of integration, infinite series, power series, and Taylor series.

### ***Required Material***

*Schaum's Outline of Calculus*, 6th Edition, By Frank Ayres, Eliot Mendelson

### ***Grading***

- Participation 10%
- Mid-Term 1 20%
- Mid-Term 2 20%
- Quizzes 20%
- Final Exam 30%

A+ 96-100	A 90-95	A- 85-89
B+ 82-84	B 78-81	B- 75-77
C+ 71-74	C 66-70	C- 62-65
D 60-61	F < 60	

### ***Course Schedule***



The course has 24 class sessions in total. All sessions are 2 contact hours in length. At the end of this term, there will be a Q-A review session(3 contact hours) and Final Exam (3 contact hours).

Note: the course outline and required readings are subject to change.

Class 1	Introduction to the course and a review of definite and indefinite integrals
Class 2	Integration by Parts Review of homework assignments
Class 3	Trigonometric substitutions Review of homework assignments
Class 4	Integration by partial fractions Review of homework assignments
Class 5	Miscellaneous substitutions Review of homework assignments; Quiz 1
Class 6	Area and Arc length Review of homework assignments
Class 7	Midterm 1 Review
Class 8	Midterm 1
Class 9	Volume (disc and shell methods)
Class 10	Area of surface of revolution Review of homework assignments
Class 11	l'Hôpital's rule Review of homework assignments
Class 12	l'Hôpital's rule (Cont.); Quiz 2
Class 13	Improper integrals and Parametric representation of curves Review of homework assignments
Class 14	Differential Equations Review of homework assignments
Class 15	Infinite Sequences and Infinite Series
Class 16	Midterm 2 Review
Class 17	Midterm 2
Class 18	Positive term series
Class 19	Integral and Comparison Test Review of homework assignments; Quiz 3
Class 20	Alternating series test Review of homework assignments
Class 21	Absolute and conditional convergence Review of homework assignments; Quiz 4
Class 22	Absolute and conditional convergence(Cont)
Class 23	Power series and Taylor and Maclaurin series



### ***Attending Policy***

Regular and prompt attendance is required. Under ordinary circumstances, you may miss two times without penalty. Each absence over this number will lower your course grade by a third of a letter and missing more than five classes may lead to a failing grade in the course. Arriving late and/or leaving before the end of the class period are equivalent to absences.

### ***Policy on "Late Withdrawals"***

In accordance with university policy, appeals for late withdrawal will be approved **ONLY** in case of medical emergency and similar crises.

### ***Academic Honesty***

Nanchang University expects all students to do their own work. Instructors will fail assignments that show evidence of plagiarism or other forms of cheating, and will also report the student's name to the University administration. A student reported to the University for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled.

### ***General Expectations:***

Students are expected to:

- Attend all classes and be responsible for all materials covered in class and otherwise assigned;
- Complete the day's required reading and assignments before class;
- Review the previous day's notes before class and make notes about questions you have about the previous class or the day's reading;
- Participate in class discussions and complete required written work on time;
- Refrain from texting, phoning or engaging in computer activities unrelated to class during the class period;
- While class participation is welcome, even required, you are expected to refrain from private conversations during the class period.

### ***Special Needs or Assistance***

Please contact the Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material. Our goal is to help you learn, not to penalize you for issues which mask your learning.