

Syllabus for Mathematics 9C.

Text: 11th edition of Thomas' Calculus by Finney, Weir and Giordano

- Please see the Guidelines for Math 9ABC.
- In order to demonstrate the utility of series, Instructors must adequately cover 11.10. In particular, Instructors should help the students acquire some facility to use series to solve differential equations. Instructors will need to consider how much time to spend on differential equations. Certainly, they need to cover enough material to make section 11.10 intelligible.

THE REQUIRED LECTURES

Improper integrals [1.5 lectures]

8.8 Improper integrals

Sequences and Series [12.5 lectures]

4.6 L'Hôpital's Rule [Review]

11.1 Sequences

11.2 Infinite Series

11.3 The Integral test

11.4 Comparison tests

11.5 The Ratio and Root Tests

11.6 Alternating Series, Absolute and Conditional Convergence

11.7 Power series

11.8 Taylor and Maclaurin Series

Differential Equations & Applications of power series [7 lectures]

9.1 Slope Fields and Separable Differential Equations

9.2 First-Order Linear Differential Equations

9.3 Euler's method. [Optional]

9.5 Applications of First-Order Linear Differential Equations

11.10 Applications of power series

Polar Coordinates [3 lectures]

10.5 Polar Coordinates

10.6 Graphing in Polar Coordinates

10.7 Areas and lengths in Polar Coordinates

Additional Lectures

It is unlikely that there will be time to cover any additional material. The additional lectures would be extra time spent on the sections listed above.

Guidelines for Mathematics 9ABC.

The current text: 10th edition of Thomas' Calculus by Finney, Weir and Giordano. We will phase in the 11th edition beginning with Math 9A Fall 2005.

1. The Department expects students to attend, and to participate in, all lectures and discussion sections of the Math 9ABC class in which they are enrolled. Instructors should inform students of this policy.
2. The Department encourages Instructors to develop mechanisms to achieve full student attendance and participation. Instructors might consider taking attendance or giving unannounced quizzes.
3. The Department expects students to develop some facility to solve word problems and to be able to apply the theory appropriately.
4. Instructors should
 - inform students of their grading schemes and policies and of any changes in these schemes and policies.
 - grant grades of C- or higher only to students who demonstrate adequate preparation for the next course in the sequence or program. For example, a student who is not competent to solve very elementary word problems does not meet this standard.
 - consider policies which would minimize or obviate the need for giving make-up examinations.
 - create all quizzes and tests.
5. The standard quiz/homework format for the discussion sections of Math 9ABC, as developed by the Teaching Assistants, calls for 15 to 20 minute quizzes to be given in roughly half of the discussion sections – these quizzes would be graded by the TAs - and roughly the same effort would be devoted to grading selected problems from the assigned homework for the other sessions. Instructors may give more or fewer quizzes, but the grading effort they should expect from the TAs is bounded by that of the standard format.
6. Since a purpose for giving a quiz is to encourage students to do the homework, some or all of the quiz problems might come directly from the homework assignments. On the other hand, while the homework should inform the tests, students should not be permitted to entertain the notion that most test questions should come without modification from the homework or any mock test.
7. The syllabi for these courses list sections of the textbook which the instructor is required to cover along with optional sections and topics. This latitude permits instructors to compensate for differences in student capabilities and it allows instructors to emphasize topics they think to be particularly important.
 - The syllabi are based upon three (50 minute) lectures per week for a ten week quarter.
 - Two lecture periods are allocated for testing.
 - One lecture is assumed to be lost due to a holiday.
 - About 24 lectures, the required lectures, are specified by sections in the textbook. Instructors must cover these sections.
 - Instructors in subsequent courses will assume that those required sections have been adequately covered.
 - Three or four lectures would be devoted to expanded coverage of scheduled topics, review and/or additional topics.
 - Instructors should not modify the first two weeks of the course in such a way as to prohibit students switching sections if that were necessary.

Please inform the department of your experience with the course, book and syllabus.