Calculus: Math 172
Section 502, Fall 2016
Lecture TTh 2:20–3:35 in PETR 106
Discussion W 9:10–10:00 in BLOC 202

Professor: Michael Anshelevich, Blocker 533D, manshel@math.tamu.edu.
Webpage: [http://www.math.tamu.edu/~manshel/m172/m172.html](http://www.math.tamu.edu/~manshel/m172/m172.html).
Office hours: MF 9:30–11 a.m., or by appointment.

Course Description: (Credit 4) Techniques of integration, applications of integrals, improper integrals, sequences and infinite series. This is a second course in calculus for math, chemistry, and physics majors and covers most of chapters 6 through 10 of the textbook. It is designed to be more demanding than MATH 152. Prerequisites are MATH 151 or 171. Credit will not be given for more than one of MATH 148, 152 and 172. The course meets for three hours per week in lecture with your professor and for one hour per week in the discussion section with your teaching assistant (TA).

Course objectives: This course will provide the students with conceptual and computational tools to solve a wide variety of problems involving calculus and power series. At the conclusion of the course, students should:

- Be able to compute definite and indefinite integrals, using numerous techniques, including the Fundamental theorem of calculus; Substitution; Integration by parts; Trigonometric integral techniques; and Partial fractions (Chapters 6, 8).
- Be able to use the techniques of integration thus mastered in various applied problems, including the computation of area, volume, arc length, surface area, work, and hydrostatic force. (Chapters 7, 9).
- Understand the definitions of sequences and series. Be able to tell whether they converge or diverge. Learn to manipulate power series, expand functions into Taylor series, and apply the Taylor approximation. (Chapter 10).

Grading: A total score of 90% or more guarantees an A, a score of 80% or more a B, 70% or more a C, 60% or more a D.
Midterm exam I, Thursday, September 29, in class lowest midterm score 15%
Midterm exam II, Thursday, November 3, in class second lowest midterm score 15%
Midterm exam III, Thursday, December 1, in class highest midterm score 20%
Final exam, Wednesday, December 14, 1–3 p.m. 30%
Homework, due most Thursdays 10%
Quizzes, in discussion section most Wednesdays 10%

Exam make-up policy: If, under completely exceptional circumstances, you need to miss one of the tests, a make-up exam will be given. Only University-approved excuses will be accepted, and you have to let me know preferably in advance, and no later than 2 days after the exam. The exams are closed book, closed notes, and calculators are not allowed. You should bring your ID to all tests. Copies of old exams are available on the web.
**Homework:** Homework will be *collected and graded* every Thursday. No late homework will be accepted, but the lowest two scores will be dropped. In addition, there will also be suggested homework problems, which will help you to master the material and prepare you for the tests.

**Quizzes:** Quizzes will be given during most discussion sections. The lowest two scores will be dropped.

**Scholastic Dishonesty:** Cheating of any form is not acceptable and it will be dealt with harshly. In particular, copying work done by others, either in-class or out of class, is an act of scholastic dishonesty and it will be prosecuted to the full extent allowed by university policy. Students are encouraged to discuss the course material outside of class, and work on the homework assignments together, however all the homework turned in must represent the result of individual effort. In particular, copying the homework from any sources is not allowed. For more information on university policies regarding scholastic dishonesty, see the University Student Rules.

**Aggie Honor Code:** “An Aggie does not lie, cheat, or steal or tolerate those who do.”

**Students with disabilities:** Come talk to me no later than the first week of classes. “The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit [http://disability.tamu.edu](http://disability.tamu.edu).”

**Attendance:** According to the University Student Rules, absence for three or more class days requires a University-approved excuse and documentation.

**Other important dates:** September 2 (last day to add or drop a course), November 18 (Q-drop), November 24-25 (Thanksgiving), December 6 (last class).

**Weekly schedule:** (approximate, subject to adjustment)

- Week 1: 6.1-6.3, 6.4, 6.5.
- Week 2: 7.1, 7.2.
- Week 3: 7.2, 7.3, 7.4, 7.5.
- Week 4: 8.1, 8.2, 8.3.
- Week 5: 8.4, E1.
- Week 6: 8.6, 8.9, 8.8.
- Week 7: 8.8, 9.3, 9.4.
- Week 8: 9.4, 9.6, 10.1.
- Week 9: 10.1, 10.2.
- Week 10: 10.3, E2.
- Week 11: 10.3, 10.4, 10.5.
- Week 12: 10.5, 10.6, 10.7.
- Week 13: 10.7.
- Week 14: 10.9, E3.
- Week 15: 10.9, 10.8(?)

**Keys to success:** Attend class (of course :) Solve *all* the homework problems, well before the exams. Spend more than seven hours per week working on the problems. Form study groups to discuss the course material and homework problems. Read ahead in the text.

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