

## Syllabus for Math 31, Fall 2012

### Calculus II

Please read this syllabus carefully. You will be responsible for all the information given here, and for any modifications to it that may be announced in class. Updated information and handouts can be accessed at my website: [www.math.ohio-state.edu/~kao/](http://www.math.ohio-state.edu/~kao/)

**Instructor:** Chiu-Yen Kao

**Texts:** (1) Single Variable Essential Calculus: Early Transcendentals (second edition, 2013) by Stewart

**Lecture:** MWF 9:00am @ RHN 15

**Course Description:** A continuation of Mathematics 30. Techniques and applications of integration; introduction to differential equations; improper integrals and indeterminate forms; infinite series and power series representation of a function. Applications to problems from the social and physical sciences. Prerequisite: Mathematics 30 or placement.

**Office Hours:** MWF 10:00-11:00am @ Adams 206 and by appointment

**E-mails:** [Ckao@claremontmckenna.edu](mailto:Ckao@claremontmckenna.edu)

**Tentative Schedule:** (See my website for detail schedule)

- 4.1 Areas and Distances
- 4.2 The Definite Integral
- 4.3 Evaluating Definite Integrals
- 4.4 The Fundamental Theorem of Calculus
- 4.5 The Substitution Rule
- 6.1 Integration by Parts
- 6.2 Trigonometric Integrals and Substitutions

-----first midterm

- 6.3 Partial Fractions
- 6.4 Integration with Tables and Computer Algebra Systems
- 6.5 Approximate Integration
- 6.6 Improper Integrals
- 7.1 Areas Between Curves
- 7.2 Volume
- 7.3 Volumes by Cylindrical Shells
- 7.4 Arc Length
- 7.5 Applications to Physics and Engineering
- 7.6 Differential Equations

-----second midterm

- 8.1 Sequences
- 8.2 Series
- 8.3 The Integral and Comparison Tests

8.4 Other Convergence Tests  
8.5 Power Series  
8.6 representing Functions as Power Series  
8.7 Taylor and Maclaurin Series  
8.8 Applications of Taylor Polynomials

-----final exam

**Grading:** two midterms (20% each), final exam (30%), class participation (5%), and homework and quiz (25%). The letter grade will be with an approximately 90(A)-80(B)-70(C)-60(D) scale.

**Class Participation:** You are expected to attend all lectures, and are responsible for all information given out during them. Excessive absences without any medical reasons will result in points lost from your class participation grade. Activities such as sleeping, reading, listening to headsets, playing smartphones, browsing the web, conversing with other students, and so on do not constitute class participation. Students engaging in such behavior during the lecture will be counted as absent.

**Homework:** I encourage students to discuss HW with each other. However, you should still write your own answers. No late HW will be accepted.

**Examination:** All tests must be taken at the scheduled times, except in extraordinary circumstances. If you cannot take a test at the scheduled time, you should contact me in advance. Check the grading of your exams carefully when they are returned; all grading errors should be brought to my attention as soon as possible. **No calculators will be allowed during any exams.**

**\*Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. If you have any other questions related to Disability Support Services at Claremont McKenna College, please contact Julia Easley in the Dean of Students Office at 909-621-8114**

**<http://www.cmc.edu/dos/DSS/disabilitysupport.php>**