CoSM Class Syllabus/Policy  
MTH 234: Calculus II, Fall 2017

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Office: Math 306  
Office Hours: M—F 8:30—9:30am, TR 1—2pm, W 2:30—3:30pm, or by appt.  
Department: Mathematics and Statistics

Class meeting times and places:  
Section 1/L21: Class TR 9:30—10:45, Math 358; Lab M 1—2:15, Math 358

Course Description: Limits, continuity, differential calculus of algebraic and transcendental functions with applications, basic antidifferentiation with substitution, definite integrals.


Program Learning Outcomes: Students graduating from SFASU with a B.S. degree and a major in mathematics will satisfy sever program learning outcomes; the outcomes addressed by this course include:

- Demonstrate comprehension of core mathematical concepts.
- Execute mathematical procedures accurately, appropriately, and efficiently.
- Demonstrate competence in using various mathematical tools, including technology, to formulate, represent, and solve problems.
- Demonstrate proficiency in communicating mathematics in a format appropriate to expected audiences.

Student Learning Outcomes: At the end of MTH 234, a student who has studied and learned the material should be able to:

1. Extend the definition of the definite integrals to applications, other than area under a curve, including volumes of surfaces of revolution, arc length, and surface area, as well as to examples from other academic fields which might include work, fluid forces, or moments and centers of mass.
2. Demonstrate mastery of basic integration techniques.
3. Solve more complicated integrals by applying techniques including integration by parts, partial fractions, and trigonometric substitutions.
4. Recognize that the Fundamental Theorem of Calculus does not allow for the computation of all definite integrals and be able to apply approximation techniques as an alternative.
5. Recognize an improper integral and apply limits to find a solution.
6. Define infinite sequences and series and determine convergence and divergence behavior by appropriately applying strategies such as the integral test, comparison tests, and ratio and root tests.
7. Recognize alternating series and determine absolute and conditional convergence behavior.
8. Determine the radius and interval of convergence of a power series.
9. Develop Taylor/Maclaurin Series expansions for basic functions.

Course Requirements: Homework will be regularly assigned, but not collected; students are responsible for completing the homework and understanding the material. Students will be expected to come to class prepared---most notably, to have read the section(s) under discussion and attempted any assigned homework. Assessments will include (approximately) weekly quizzes over course material, two regular exams (tentatively 18 Sep and 23 Oct), laboratory assignments/problems/presentations, and a comprehensive final exam (8—10 on Tu, 12 Dec).
Course calendar/outline:
(Topics may be presented in a different order than given here)

- Applications of the definite integral
  - Volumes of surfaces of revolution
  - Arc length/surface area
  - One or more of the following applications: work, fluid pressure/force, moments/centers of mass
- Techniques of integration
  - Basic integration techniques
    - Integration by parts
    - Integration by partial fractions
    - Trigonometric substitutions
    - Numerical integration
    - Improper integrals
- Sequences and series
  - Sequences
  - Series: geometric, harmonic, general
  - Integral test
  - Direct and limit comparison tests
  - Ratio and root tests
  - Alternating series: absolute/conditional convergence
  - Power series
  - Taylor/Maclaurin series

Approximate time spent

- 30%
- 30%
- 40%

Grading Policy: Grades will be based on the total points accumulated on in-class quizzes, exams, and labs. If you miss a regularly scheduled quiz/exam, the next grade of the same type will count double; missed laboratory assignments must be worked out in advance. There will be no extra credit (other than, perhaps, bonus questions on exams).

Attendance Policy: Attendance is expected and roll will be checked every day. Students who miss no more than three class days may receive special consideration in determining their grade.

Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when,
in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

**Withheld Grades Semester Grades Policy (A-54)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Please be respectful of your fellow students and your instructor. Cell phone use and texting are not allowed in class. Remember to turn your cell phone off or place it in quiet mode before entering the classroom.