Class Syllabus / Policy

2018 Spring
MTH 234.003, .700
Calculus II

Instructor: Dr. Roy Joe Harris
Department: Mathematics & Statistics
Email: rharris@sfasu.edu
Phone: 936-468-1486
Office: 346 Math/Nursing
Office Hours: Monday 9:30-12:30, Tuesday 9:30-11:30
Class meeting time and place: Section .003: TTh 8-9:15, Math 203
Lab: Mon 2:30-3:45; Math 358;
Section .700: TTh 8-9:15, NHS Campus via ITV
Lab: Mon 8-9:15; NHS Campus;
January 16—May 11.


Course Requirements: There will be three in-class exams and a comprehensive final exam. Each exam date will be announced at least one week in advance. If a student must miss an exam due to an excused absence, special arrangements should be made in advance. Student ID with photo may be required for all exams.

Course Calendar:
Class begins on January 16 and ends on May 11. The final exam will be during the week of May 7-11.

Course description:
Applications and techniques of integration, improper integrals, infinite series and power series.

Department syllabus:
Please read the official Department of Mathematics & Statistics syllabus for MTH 234 at http://www2.sfasu.edu/math/docs/syllabi/MTH234Syllabus.pdf.

Grading Policy:
The homework/quiz average will be worth 10% of the student’s final average, the average of the first three exams will constitute 50% of the student's final average, the lab grade will be worth 12% of the student's final average and the final exam will be worth 25% of the student’s final average. The remaining 3% of the final grade is assigned by Dr. Harris. Dr. Harris reserves the right to allow the final exam score to replace a lower exam score. A final average ranging from 90 to 100 will be an A in the course, 80 to 89 a B, 70 to 79 a C, 60 to 69 a D, and below a 60 will be an F.

Attendance Policy:
Students who have 3 or more unexcused absences may have points deducted from their final average.
Course outline:

- **Applications of the definite integral** 30%
  - Volumes of surfaces of revolution
  - Arc length
  - Surface area
  - One or more from the following applications:
    - Work
    - Fluid pressure and forces
    - Moments and centers of mass

- **Techniques of Integration** 30%
  - Basic integration techniques
  - Integration by parts
  - Integration by partial fractions
  - Trigonometric substitutions
  - Numerical integration
  - Improper integrals

- **Infinite Sequences and Series** 40%
  - Sequences
  - Infinite series
    - Geometric series
    - Harmonic series
    - General series
  - Integral test
  - Comparison tests
    - Direct comparison test
    - Limit comparison test
  - Ratio and root tests
  - Alternating series
    - Absolute convergence
    - Conditional convergence
  - Power series
  - Taylor and Maclaurin series

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**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](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/](http://www.sfasu.edu/disabilityservices/).
MATH 234 – Calculus II
Syllabus Continuation

Student Learning Outcomes (SLO):
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. [PLO: 1, 3, 4, 5]
2. Demonstrate mastery of basic integration techniques. [PLO: 1, 2, 4]
3. Solve more complicated integrals by applying techniques including integration by parts, partial fractions, and trigonometric substitutions. [PLO: 1, 2, 4]
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. [PLO: 1, 4]
5. Recognize an improper integral and apply limits to find a solution. [PLO: 1, 2, 4]
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. [PLO: 1, 2, 4, 5]
7. Demonstrate comprehension of core mathematical concepts. [Concepts] (notion of theorem, mathematical proof, logical argument)
8. Execute mathematical procedures accurately, appropriately, and efficiently. [Skills] (calculus, algebra, routine, nonroutine, applied)
9. Apply principles of logic to develop and analyze conjectures and proofs. [Logical Reasoning] (quantifiers, breaking down mathematical statements, counterexamples)
10. Demonstrate competence in using various mathematical tools, including technology, to formulate, represent, and solve problems. [Problem Solving] (calculus tools, algebra tools, applied tools, nonstandard problem solving)
11. Demonstrate proficiency in communicating mathematics in a format appropriate to expected audiences. [Communication] (written, visual, oral)