

MATH 5B –MATH ANALYSIS II (#55345)
Spring 2015

Instructor: Mr. Conrad Perez

Class Time: MTWF 12:00 PM – 12:50 PM

Classroom: CCI-206

Office: FEM-1H

Office Hours: MWF: 10:00 AM – 11:00 AM; or by appointment

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Textbook: Calculus, Early Transcendentals (Tenth Edition) by Anton, Bivens, and Davis

Important Dates: Drop Deadline- Fri. March 13, 2015.

Days Off- Mon. Jan. 19; Fri. Feb. 13; Mon. Feb. 16; Mon.-Fri. March 30-April 3.

Final Exam- Wed. May 20, 2015 from 12:00 PM to 1:50 PM

Course Prerequisites: C or better grade in Math 5A or equivalent.

Course Overview: The course will cover all or parts of chapters 5 – 10 as time permits. The course objective is to obtain a solid understanding of the following concepts and problems that involve calculus:

- A. Determine the area between two curves in the coordinate plane.
- B. Determine the volumes of solids of revolution using the disk and shell methods.
- C. Determine the length of a curve in the coordinate plane.
- D. Solve application problems involving force, pressure, and work.
- E. Evaluate and use hyperbolic functions.
- F. Use the technique of integration by parts to evaluate definite and indefinite integrals.
- G. Evaluate definite and indefinite integrals involving combinations of trigonometric functions.
- H. Use the technique of trig substitution to evaluate definite and indefinite integrals.
- I. Use the technique of integration by partial fraction decomposition to evaluate definite and indefinite integrals.
- J. Learn to use integral tables to evaluate definite and indefinite integrals.
- K. Apply Simpson's Rule to numerically evaluate integrals.
- L. Evaluate improper integrals.
- M. Use, differentiate, and integrate parametrically defined functions.
- N. Use polar coordinates to define and analyze polar functions.
- O. Derive the equations for and graph conic sections.
- P. Investigate the behavior of exponential functions.
- Q. Mathematically model exponential growth and decay phenomena.
- R. Investigate the behavior of sequences and series.

- S. Judge convergence or divergence by apply appropriate tests.
- T. Apply convergence tests including the Comparison, Ratio, and Root Tests.
- U. Derive and use Maclaurin and Taylor Series.
- V. Derive and use power series.
- W. Investigate the convergence of Taylor Series and use the Remainder Theorem.

Attendance: After 5 absences, students may be dropped from the class. Late arrival and leaving class early will be considered as an absence. Any canceled classes will have a note posted on the classroom door.

Behavior: A student may be suspended from the class if he or she engages in a classroom behavior that interferes with the learning environment. Such behavior includes, but is not limited to, disruptive conversations with fellow students, regular tardiness, sleeping, and leaving the classroom during class time. Students are expected to turn off all pagers, cell phones, and other electronic devices during class time.

Assignments: There will be 4-6 exams (including the final) worth 100 points apiece. Homework assignments and quizzes that are given will be worth 10 points apiece. Some homework and/or extra credit may be assigned as group work during the semester. No homework will be accepted after its due date or no make-up exams will be given without prior arrangements being made before the homework's due date or before the exam. Quizzes cannot be made up. A student caught cheating will receive an F on the assignment and/or may be dropped from the course.

Grading: The course grade is based upon the points earned from the homework, quizzes, exams, extra credit, and the final. At any time during the course, the grade of a student is determined as follows:

$$\frac{\text{Points Earned}}{\text{Total Points Possible}} \times 100 = \text{grade of the student}$$

The grade will be based upon the following percentages (**NO ROUNDING**):

90-100% A 80-89% B 70-79% C 65-69% D 0-64% F

Note: If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.