

MATH 337-001

Elements of Real Analysis

Fall 2019

12:45-2:05 TR in COHH 3123

Prerequisites: MATH 237, MATH 307, MATH 310 with a grade of C or better.

Instructor: Dr. Tom Richmond      COHH 3106      Skype: trichmondwku  
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Office Hours:            9:05-10:00 MW   2:15-3:00 TR  
and by appointment

Purpose of the course: Real Analysis is the study of real numbers and functions. Math 337 provides a careful development and extension of some of topics you have studied in algebra, trigonometry, and calculus. MATH 337 is required for general math majors not seeking secondary certification.

Learning Outcomes: Upon completion of MATH 337, a student will be expected to

- Have a basic understanding of introductory mathematical analysis.
- Be able to perform proofs using mathematical induction and contradiction.
- Know the basic concepts concerning the real number system and functions of a real variable.
- Have learned more about sequences and series
- Have a good understanding of limits, continuity, and elementary topology.

Attendance Policy: Regular and punctual class attendance is required of all students. Three or more unexcused absences from class might result in an "F" as final course grade. A student absent from class bears the full responsibility for all subject matters and procedural information discussed in class.

Testing and Grading: Students are responsible for material presented in class and the material in the text. There will be three one-hour in-class tests, each worth 100 points. The comprehensive final exam is scheduled for 10:30, Tuesday December 10, 2019, and is worth 150 points. There will also be up to 200 points of daily grades, consisting of writing assignments, projects, collected homework and/or quizzes, which may or may not be announced in advance. Primarily, this will be problem sets collected about every 1.5 weeks. Grading will follow the 10-point scale: 90% of the total number of points is an A, 80% is a B, etc.

Textbook: *Analysis with an Introduction to Proof, 5<sup>th</sup> Edition*, Steven R. Lay. Pearson 2014. ISBN 978-0-321-74747-1

Course Outline: We will cover Chapters 1- 5, 8, and additional topics selected from the text or provided by the instructor.

Last Day to Withdraw/Change to Audit: October 18. No exceptions.

Academic Dishonesty: Student who commit any act of academic dishonesty may receive from the instructor a failing grade in that portion of the course work in which the act is detected or a failing grade in a course without possibility of withdrawal.

ADA Accommodation Statement: In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at [sarc.connect@wku.edu](mailto:sarc.connect@wku.edu) . Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Sexual Misconduct/Assault Policy: Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at <https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and Discrimination and Harassment Policy (#0.2040) at [https://wku.edu/policies/hr\\_policies/2040\\_discrimination\\_harassment\\_policy.pdf](https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf).

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and **MUST** report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.