

Elements of Real Analysis

Math 337-001 MWF 11:30-12:25 (COHH 3119)

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Office hours:

MWF 12:25-1:35, 2:45 – 4:00 Other times by appointment or capture.

Drop Date: March 18

Welcome! 337 is intended to be your first introduction to abstract mathematical analysis. The prerequisites for it are 237, 307, and 310 with a grade of C or better. I hope that this course will give you a glimpse of what techniques and thought processes are involved in doing mathematical research. Don't let that frighten you! Keep up! Do the proofs and homework carefully and come see me whenever you have problems. Office hours are your time not mine.

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 real variables.
- have learned more about sequences and series.
- have a good understanding of limits, continuity, and elementary Topology.

There will be homework assigned daily, which will be taken up occasionally and without warning. Be ready. There will be three tests and a final. Your grade will be determined as follows:

Homework	20%
Test (3)	60%
Final	20%

Textbook: **Analysis with an Introduction to Proof**, Fifth Edition by Steven R. Lay

Course Outline:

Chapter	Days
1	2
2	4
3	5
4	3
5	4
8	2
Selected Topics	3

The dates of the exams are as follows.

Fri. Feb. 15

Fri. Mar. 22

Fri. Apr. 19

Final (comprehensive) Fri. May 10, 10:30-12:30

Additional information

• The Learning Center (TLC)

Should you require academic assistance with your WKU courses, the Learning Center (located in the Downing Student Union, 2141) provides free supplemental education programs for all currently enrolled WKU students. The Learning Center at Downing Student Union offers certified, one-on-one tutoring in over 200 subjects and eight academic skill areas by appointment or walk in. Online tutoring is offered to distance learners. TLC is also a quiet study area (with side rooms designated for peer-to-peer tutoring) and a computer lab to complete academic coursework. Please call

TLC in the Downing Student Union at (270) 745-5065 for more information or to schedule a tutoring appointment. www.wku.edu/tlc

• Libraries:

1. WKU Libraries has subject specialist faculty members who work with every department and program on campus.
2. Students can make an appointment with the subject specialist faculty librarian any time they have a paper or project.
3. As your own personal librarian, the subject specialist library faculty member sit down with students and helps them get started with their research, makes sure the students know how to use the online resources, etc.

• Students with disabilities:

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, room 1074 of the Student Success Center. The phone number is 270.745.5004 or email at

sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a letter of accommodation from The Student Accessibility Resource Center.

- 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://www.wku.edu/eoo/eo/discriminationandharassmentpolicy2018.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.