

MAT 457/657 (Intro Real Analysis I)
Fall 2016

Schedule: SEB-1243, MW 4:00-5:15pm
Textbook: "Fundamental Ideas of Analysis"
by Michael Reed (John Wiley & Sons, Inc., 1998).
Material: Chapters 1 through 5, excluding some starred sections.
Grading: Based on 2 tests, homework/quizzes and a final examination

<i>Test 1</i>	<i>September 28 (W)</i>	<i>25%</i>
<i>Test 2</i>	<i>November 2 (W)</i>	<i>25%</i>
<i>Final</i>	<i>December 12 (M)</i>	<i>30%</i>
<i>Homework & Quizzes</i>		<i>20%</i>

$A(-): [90,100]$; $B(-,+): [80,90]$; $C(-,+): [70,80]$; $D(-,+): [60,70]$; $F: [0,60)$

Homework: Due on Wednesdays. No late homework accepted.
Recitation Sessions: Mandatory, on Fridays with GA.
Quizzes: On Fridays, during Recitation Sessions.
Learning Outcomes: The student should be able to develop critical thinking as well as work out proofs through rigorous and logical reasoning.

TOPICS TO BE COVERED

[Between 2 and 3 weeks on each of the 5 items below]
[Starred sections of textbook are possible topics for final reports by graduate students]

1. **Preliminaries:** The Real Numbers; Sets and Functions; Cardinality.
2. **Sequences:** Convergence and Limit Theorems; Cauchy Sequences; Sup and Inf; The Bolzano-Weierstrass Theorem.
3. **Continuity and The Riemann Integral:** Continuity; Continuous Functions on Closed Intervals; The Riemann Integral; Discontinuities; Improper Integrals.
4. **Differentiation:** Differentiable Functions; The Fundamental Theorem of Calculus; Taylor's Theorem; Inverse Functions.
5. **Sequences of Functions:** Pointwise and Uniform Convergence; Limit Theorems; The Supremum Norm.

FURTHER INFORMATION AND POLICIES

1) No make-up tests (or quizzes) will be given.

2) Homework exercises will be given on a regular basis and collected on **Wednesdays**. *No late homework will be accepted!*

3) A part of the tests (and perhaps of the final) may be of **take-home type** and should be **worked out individually**. Those are **due prior to** the class following the one in which they were handed out.

4) This course is very intensive, challenging, and requires a good deal of work. Keep up with the material on a daily basis and do every homework (as well as other exercises in the textbook), since quizzes questions may be similar to them. Besides, you will be preparing yourselves for the two major tests and the final examination.

5) Final Exam – The final exam is **comprehensive** to be given on **December 12, 6:00-8:00pm**.

6) Attendance to the main lectures is also mandatory (it may affect your final grade). You are also encouraged to come to the office hours. If you cannot make those hours, you can set an appointment with me or the GA for a different time!

7) Academic Misconduct – Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <http://studentconduct.unlv.edu/misconduct/policy.html>

8) Copyright – The University requires all members of the University Community to familiarize themselves and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/committees/copyright/>

9) The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

10) Religious Holidays Policy – Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

11) Transparency in Learning and Teaching – The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information: <https://www.unlv.edu/provost/teachingandlearning>
<https://www.unlv.edu/provost/transparency>

12) Incomplete Grades – The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

13) Tutoring and Coaching – The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

14) UNLV Writing Center – One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

15) Rebelmail – By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

16) Library Resources – Students may consult with a librarian on research needs. For this class, the subject librarian is https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

17) Final Examinations – The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.