

**SYRACUSE UNIVERSITY**  
**MAT 731, Rings and Modules**  
**SPRING, 2012 SYLLABUS**

**Instructor:** Declan Quinn, Physics 229D      **Phone:** 443-1484

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**Office Hours:**      Monday 12:45am – 1.40m  
                              Wednesday 9:30am – 10:25am  
                              Thursday 3:10pm – 4pm.

**Course Description:** Submodules, factor modules, chain conditions, Hilbert basis theorem, division rings, Schur's lemma. Jacobson density theorem, semi-simple modules, socles, Jacobson radical, semi primitive rings, Artin-Wedderburn theorem, integral extensions, completions, localization.

**Text:** *Advanced Modern Algebra 2<sup>nd</sup> Edition*, by Joseph J. Rotman, AMS 2010.

**Mathematics Prerequisites:** MAT 631, 632.

**Homework:** Problems will be assigned in class and some of these will be collected and graded. You are welcome to work with your classmates on problems, but each student must write up an independent solution.

**Exams:** There will be one in-class exam (on a date to be announced) about the middle of the semester. In addition there will be a take-home exam at the end of the semester which must be worked independently.

**Grades:** Homework will count for 50% of your grade, the midterm will count 20% and the take-home final will count the remaining 30%.

**Academic Integrity** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort.

**Disabilities:** Students who may need academic accommodations due to a disability are encouraged to discuss their needs with the instructor at the beginning of the semester. In order to obtain authorized accommodations, students should be registered with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498 and have an updated accommodation letter for the instructor. Accommodations and related support services such as exam administration are not provided retroactively and must be requested in advance. For more information contact the Office of Disability Services.

**Office of Disability Services:** Office of Disability Services, 804 University Avenue Room 309, Syracuse, New York 13244-2330 (315) 443-4498 TDD: (315) 443-1371

e-mail: [odssched@syr.edu](mailto:odssched@syr.edu)

**Religious Observances Policy.** SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online registration is available through MySlice (Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of classes.