# Math 2710

Transition to Advance Mathematics

## Instructor Information

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## Course Description

A course designed to prepare the serious student for the more theoretical upper division mathematics courses. It includes basic concepts, principles and techniques of mathematical proof. It will also cover concepts commonly assumed in some of the higher mathematics courses; these concepts include sets, set operations, indexed family of sets, equivalence relations and partitions, functions, one-to-one functions, onto functions, induced set functions, etc.

### Pre-requisites

Math 1132, 1152 or consent of instructor. Not open to students who have passed Math 2143.

### Required Materials

An Introduction to Mathematical Thinking by Gilbert and Vanstone, Pearson Prentice Hall, 2005.

### Software

Occasionally, you may find it useful to use computer software to compute examples, solve equations, or check your work. While it will not be a required part of the course I can recommend the following resources.

- WolframAlpha is available as a free resource online.
- Sage is an open-source computer algebra system with programming capabilities based on Python.

Additionally, LaTeX is a document preparation system which is widely used in academia for typing mathematics. If you plan on continuing on in mathematics (i.e. graduate school), I highly recommend learning how to use it early on in your studies. For an introduction check out https://www.latex-project.org. If you do not want to download a LaTeX distribution I recommend the website https://www.sharelatex.com/.

## Course Breakdown

| Assignment | Grade Percentage |
|---|---|
| Homework | 25 % |
| Exam 1 | 25 % |
| Exam 2 | 25 % |
| Final Exam | 25 % |

### Homework

Throughout the semester homework will be assigned and collected periodically. It will constitute 25% of your grade. I allow and encourage you to work with others on homework if you write up your solutions in your own words. Assignments with identical wording will be considered cheating. I believe homework is an important opportunity to carefully write proofs with ample time. Homework must be typed. While there are a plethora of ways to type mathematics I recommend using LaTeX as it is the standard in mathematics.

### Mid-Term Exams

There will be two mid-terms worth 25% each. They will be in-class exams and occur on the dates indicated in the calendar and below.

| | |
|---|---|
| Exam 1 | Sept. 30th |
| Exam 2 | Nov. 4th |

### Final Exam

The final exam will take place on a date set by the registrar and will be worth 25% of your grade.

## Grade Scale

| Points | Grade |
|---|---|
| 93 – 100 | A |
| 90 – 92 | A− |
| 87 – 89 | B+ |
| 83 – 86 | B |
| 80 – 82 | B− |
| 77 – 79 | C+ |
| 73 – 76 | C |
| 70 – 72 | C− |
| 67 – 69 | D+ |
| 63 – 66 | D |
| 60 – 62 | D− |
| 0 – 59 | E |

## Make-ups

Make-up exams will be given to students who miss exams for valid reasons at the discretion of the instructor. No make-ups will be given for homework. In general, acceptable reasons for absence from class include illness, serious family emergencies, special curricular requirements (e.g., field trips, professional conferences), military obligation, severe weather conditions, religious holidays and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) will be excused. Other reasons also may be approved. In addition, if you are already aware of a conflict with an exam date, then you need to discuss this with your instructor within the first two weeks of class.

## Temporary Grades

**I Grade:** The instructor reports an I if the completed work is passing and the instructor decides that, due to unusual circumstances, the student cannot complete the course assignments. If the student completes the work by the end of the third week of the next, registered semester, the instructor will send the Registrar a grade for the course. Otherwise, the Registrar will convert the I to IF. Effective with spring 2004 classes, upon successful completion of a course, the I on the academic record is replaced by the permanent letter grade. If the instructor does not submit a grade the Registrar will change the grade to IF or IU.

**N Grade:** An N grade is recorded when no grade is reported for a student who has been registered in a course section. It usually indicates a registration problem. To resolve this problem you must see the instructor who may submit a letter stating that you never attended the class. The Dean of the school in which you are enrolled must approve a late drop. N grades are replaced on the academic record by the actual grade when submitted by the instructor. An N mark which remains unresolved will become NF and be computed as an F at the end of the third week of the next semester of registration.

**X Grade:** The instructor reports an X only when a student missed the final examination and when passing it with a high mark could have given the student a passing grade for the course. If the student would have failed the course regardless of the grade on the final examination, the student will receive an F. If the instructor reports an X and the Dean of Students Office excuses the absence, the instructor will give the student another opportunity to take the examination . The absence must be due to sickness or other unavoidable causes. The instructor must give the examination before the end of the third week of the next, registered semester. If by the end of the third week of the next, registered semester the instructor does not send a grade to the Registrar, the Registrar will change the X to X F or X U. In exceptional instances, after consulting the instructor, the Dean of Students Office may extend the time for completing courses marked I or X.

## Students with Disabilities

The Center for Students with Disabilities (CSD) at UConn provides accommodations and services for qualified students with disabilities. If you have a documented disability for which you wish to request academic accommodations and have not contacted the CSD, please do so as soon as possible. The CSD is located in Wilbur Cross, Room 204 and can be reached at (860) 486-2020

or at csd@uconn.edu. Detailed information regarding the accommodations process is also available on their website at www.csd.uconn.edu.

## Academic Honesty

This course expects all students to act in accordance with the Guidelines for Academic Integrity at the University of Connecticut. If you work on the homework with your classmates, you must write your own solutions individually. There should be no help given or received on midterms or the final exam. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in Appendix A of the Student Code.