DEPARTMENT OF MATHEMATICS
Ralf Schiffler

MATH-2710-Transition to Advanced Mathematics

Math 2710 Transition to Advanced Mathematics Fall 2022
Instructor: Ralf Schiffler
Office: Mont 336
Office hours: TT 10:00-11:00 or by appointment
Email: schiffler at math dot uconn dot edu

Lectures: OAK269, TuTh 2:00pm-3:15pm

Exam schedule :
Exam 1: Thursday Oct 13
Exam 2: Tuesday Dec 6

Description: This course is an introduction to basic concepts and techniques of mathematical proof. We will cover the basics of set theory and logic, proof techniques for conditional and non-conditional statements, mathematical induction, relations and functions, i.e. chapters 1, 2, 4-12 of the textbook.

This course is a prerequisite for most of the 3000-level MATH courses. You will need to earn a **"C" or better** in this course in order to use it as a prerequisite.

Textbook: Richard Hammack, Book of Proof. Third edition. Free textbook available here. You can use the online book and/or download the pdf-version.

Homework: Homework will be assigned on Thursdays and collected the following Thursday. I will only grade a subset of the assigned problems in detail and you will know which ones. For the remaining problems, I will only check if the work is done. These problems will be important for the exams.

I encourage you to work on the homework assignments in groups. However, each student must hand in their own copy.Homework must be on letter-size paper only and multiple pages must be stapled together. I will NOT accept any LATE HOMEWORK, but I will drop the two problem sets with the lowest grades when I compute the final homework grade.

Exams: There will be two exams. Each exam covers the material seen in class since the previous exam. There is no final exam.

Course Grade:

Exam 1: 35%
Exam 2: 35%
Homework: 30%

Homework Assignments

Hand in your work on paper in class. The underlined problems will be graded in detail. For the remaining problems I will only check if the work is done.

Homework 1, Due Sep 8

Section 1.1. # 18, 30, 34,

Section 1.2. # 2(a), 2(f), 4

Section 1.3. # 2, 12, 16

Section 1.4. # 2, 12, 16

Homework 2, Due Sep 15

Section 1.5, # 3

Section 1.7. # 2, 3, 4, 6, 11, 12, 13, 14

Section 1.8. # 1, 4, 5

Homework 3, Due Sep 22

Section 2.2, # 7, 8

Section 2.3. # 2, 4, 11, 13

Section 2.4. # 1, 4, 5

Section 2.5, # 4, 6, 8

Homework 4, Due Oct 4 (Tuesday)

Section 2.6. # 6,8

Section 2.7. # 4, 5

Section 2.9. # 3, 4, 5, 6

Section 2.10. # 4, 5, 6

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Homework 5, Due Oct 6

Chapter 4. # 2, 4, 6, 10, 16, 18, 28

Homework 6, Due Oct 13

Chapter 5. # 2, 6, 10, 12, 18, 22, 28

Homework 7, Due Oct 27

Chapter 6. # 4, 6, 8, 10, 14, 16, 24

No homework due on Nov 3

Homework 8, Due Nov 10

Chapter 7. # 4, 7, 8, 10, 12, 13, 18, 23, 26, 35

Homework 9, Due Nov 17

Chapter 8. # 12, 22, 28

Chapter 9. # 18, 24, 30

Chapter 10. # 1, 2, 3, 4

Homework 10, Due Dec 1

Chapter 10. # 6, 11, 12, 16,

Section 12.2. # 4, 6, 8