Transition to Mathematical Proofs
Course Logistics

Below, we outline some of the logistics of utilizing the online course.

The Course Structure

This course is separated into several chapters that introduce clusters of concepts that are of fundamental importance to proof-writing. These chapters are meant to be read and viewed sequentially. At the end of each chapter, there are questions presented to you that ask you to practice the specific skills discussed. You are to complete all of the assigned problems and then upload them to our Moodle site for assessment and feedback. You need not wait for feedback on one chapter to begin another.

Assignments

Each chapter will have four major components:

- *Chapter Notes* - a detailed description of each topic with examples, proofs, and plenty of intuition. For example, "Chapter 1 - Logic" contains a description of the basics of logical arguments.
- *Video Lecture* - an approximately 1 hour video (along with slides) highlighting some of the major topics discussed in the Chapter Notes. The Video Lecture is not a substitute for reading the Chapter Notes; rather, the Notes should be read first and then supplemented with the Video Lecture.
- *Chapter Questions* - a set of several questions relating to the material presented in Chapter Notes. Your job is to complete all of these questions. For example, "Logic Questions" asks you to prove several propositions similar to those found in "Chapter 1 - Logic" notes.
- *Chapter Assignment* - this tool allows you to actually upload your responses to the Chapter questions. You are to upload a .pdf file containing your answers. This assignment will be graded by our teaching assistants and will be returned to you with comments, along with qualitative and quantitative feedback. For example, "Logic Assignment" gives you a way to upload a .pdf file of your responses to the questions posed in "Logic Questions."

Turning in Assignments

You will be turning in your assignments via the Assignment tool in each chapter (for example, for Chapter 1, you will use "Logic Assignment"). Your responses should be uploaded in a single .pdf file that contains all of your work. You have one of three options for how to upload your work:

- Handwrite your answers clearly and legibly and then scan in your responses using a scanner, saving the file as a .pdf.
- Use a popular word-processing program like Microsoft Word to type out your answers and save your responses as a .pdf file. Word, though, may prove to be awkward when dealing with many mathematical symbols.
- Use LaTeX, the preferred scientific typesetting program, to typeset your answers, saving your responses as a .pdf.

For many students, the first (handwriting) option will be the most reasonable. Below are some general guidelines to ensure that your work is as complete as possible.

- When handwriting, what you scan in should be your final draft. Do not scratch out, etc, incorrect work. Many students will need to work on a draft on a separate sheet before writing out their final submitted work.
- Your responses should appear in the order that they appear in the Chapter Questions. So, for example, your first response should pertain to Question 1, your second response should pertain to Question 2, and so forth.
- Your proofs should include a *Discussion* section. As mentioned in the notes, the Discussion section is where you map out your logical thinking and give a rough outline of your proof.

Video Lectures

Each chapter contains an accompanying Video Lecture, in which an approximately 1 hour video guides students through some of the Chapter Notes content. The Video Lecture follows much of the Notes, but it not meant to be a substitute. The Video Lectures, though, do provide a more visual and interactive approach to the content and should be viewed before attempting the assignments.

Asking for Help

Being that this is an online course, it is your responsibility to ask for help if you are stuck on a concept or a question. The best way to contact the instructor or the TAs is to post a question in one of the many forums. For example, if you are stuck on a Complex Numbers question, then post it in the Complex Numbers forum. Chances are, your peers probably have the same question! Then, the instructor, TA, or some of your classmates will happily answer your question or lead you in the right direction.