

# Outline of assignments, Introduction to Research Seminar, Spring 2004, Wheeling Jesuit University

## Assignment 1

For class on Thursday Jan. 22 Read: chapter 1 of Heart of Mathematics.

Prepare presentations: A problem from the homework from chapter 1 and a cool math fact from <http://www.math.hmc.edu/funfacts/>

Also: think about what topics you would like to look at in this course and look for jobs/grants to fill out an application for for the first writing assignment.

## Writing Assignment 1

The first writing assignment will consist of writing a job application/ grant application of your choice. You do not have to submit the application to the agency.

The application must include some for of resume and some essay questions.

Details will be discussed in class. The scoring rubric is in Course Documents in Blackboard.

This assignment is due Thursday January 29th.

## Assignment 2

Read sections 7.1 and 7.2. Prepare one problem for presentation in class.

Also Writing assignment 1 is due.

All of this is due in class Jan. 29th.

## Writing Assignment 2

Write a one page summary of a chapter of your choice. In this summary focus on one particular topic in the chapter. Prepare a 10 ro 15 minute presentation on the topic for your classmates.

The paper must be typed using  $\text{\LaTeX}$ .

Due Thursday Feb. 19.

## Assignment 3

Read 7.3 thourgh 7.5.

Come up with a presentation for a non-math audience for a fund raiser using expected value.

State which chapter you will focus on for the next writing assignment.

#### **Assignment 4**

Read rest of chapter 7. Prepare for presentation one problem from the section.  
Also decide what topic to focus on within the chapter you will be using for the next writing assignment.

#### **Assignment 5**

Complete writing assignment 2 and prepare presentation to go along with it as discussed in class (10 -15 minutes)  
Come up with 5 potential topics for final project.

#### **Assignment 6**

Read the article Arithmetic Matrices and the Amazing Nine-Card Monte which you can download and print off JSTOR.  
Prepare a research proposal as discussed in class.

#### **Assignment 7**

Read the paper again and prepare the proof of Theorem 1 for presentation (different students will be asked different parts)  
Write one or two paragraphs on your progress on the final project. You can either e-mail them to Dr.Roth or give them to her in class.

#### **Assignment 8**

Present a longer proof from your calculus or analysis text. Feel free to talk to Dr. Roth about what you want to show. It should take about 10 minutes.  
Write a progress report on your big project. This time it should be specifically on sources. Please include what sources you've got or requested, what you have looked at in each source you've gotten (that means you should have looked at all sources you've picked up), and what you this you will use from this source.

## **The big writing and presentation assignment**

The big presentations will be on Tuesday April 20th (research day), sometime in the morning. The final copy of the paper will be due the last Thursday of class Thursday April 29th.

A full draft of the paper will be due on Thursday April 15th and we will do practice runs of the presentations that day as well.

Some portion (probably the introduction and bibliography) will have a draft due earlier. Details to be announced later.

## **Assignment 9**

Presentation: present an induction proof of your choice (about 10 minutes long)

Assignment: Meet with your faculty mentor for your big project and send me an e-mail report about what you talked about.

## **Writing assignment 3**

The introduction and the bibliography for your big project are due in class on April 1st. You must use  $\LaTeX$  to typeset this.

## **Assignment 10**

Drafts of the introduction to the paper are due.

Presentations will be an example from your topic.

Due Thursday April 1.

## **Assignment 11**

A full draft of the final paper is due.

Practice runs of the big presentation will occur.

Due April 15th.

## **Assignment 12**

For class on April 22, write a few paragraphs on what you learned in this course, what you would like to learn more about, and what you thought you'd learn but didn't. Also how prepared do you feel for your senior thesis?

You can either e-mail these to me or give me them in class.  
No presentation in class this week since your big presentation was on Tuesday April 20th.  
Your drafts will be returned by class.

### **The last assignment**

Present a proposal for your senior thesis for 5 to minutes to be done in class April 29.