How to Learn in This Course

CS 5010 Program Design Paradigms
"Bootcamp"

Lesson 0.1

Lesson Objectives

- At the end of this lesson you should be able to
    - explain how the "flipped classroom" model works
    - understand how each module is organized
    - explain how to find your learning objectives for each lesson
    - understand how homeworks are assigned and graded

It's not calculus

- We want you to write beautiful programs
- It's not enough to get the right answers
- It's about design– which means making your program readable and modifiable by humans
- This includes documenting your program
  - so the TA can understand it
  - so a future programmer can understand and modify it

The "Flipped Classroom"

- The course consists of 13 modules, numbered 0 through 12.

- Each module runs from Monday to Sunday

- Each module consists of
  - online materials
  - a 2-hour classroom meeting
  - a problem set

Online Materials

- The materials for each week will be posted online.

- This will consist of a set of video lectures and a reading assignment

- This material replaces the usual 3-hour lecture

- ***You will be responsible for studying this material before you come to class.***

Organization of a Lesson

- Each lesson will have "learning objectives" to give you an overview of what you should be learning in the lesson

- Each lesson will have a copy of the Course Map to show you where the lesson fits into the course

- Lessons may consist of PowerPoint slides, video narrations, or live coding demonstrations.

Lesson Exercises

- Lessons may also include a few short exercises.

- We strongly urge you to do these exercises, since they give you a quick way of checking your understanding.

- In some cases the exercises contain new material, so you won't get the whole story unless you do the exercises.

How to study the materials

- Practice active reading
  - DON'T SKIM!
  - read every word carefully
  - read with pencil in hand
  - jot down questions as you go along
  - if there's something you don't understand, STOP.
    - re-read the slide
    - replay the video
    - ask a question on Piazza
  - if you don't come to class with a question, you haven't read closely enough!!

The classroom meeting

- The classroom meeting will be devoted to
  - review of the previous topics, as needed
  - in-class exercises and other enrichment on this week's materials
  - questions and answers.
    - you can ask the instructor questions, but the instructor may ask you questions also.
- ***No new material will be presented in class.***

The Weekly Problem Set

- Problem Sets are assigned weekly.
  - they will come out on Monday and be due at 6pm the following Monday.
  - familiarize yourself with the homework policies and deliverables, on the course web page.

Problem Sets take a lot of work

- They are designed to take about 20 hours to do.

- Organize your time accordingly.

- Ask questions early
  - on Piazza
  - during TA office hours
  - in class

Homework policies

- The course web site contains detailed instructions on what you must turn in and how you must do it. Go study it.

- The requirement for a lab notebook has been replaced by a Work Session Report, which is a simple Google form that you will complete at the end of each work session.

Codewalk

- Problem Sets are due on Monday at 6pm local time.

- Sometime during the week, you will be examined orally on your solution for about 15 minutes.

- This is called "codewalk."

- You will have your codewalks in groups of 4 students.

- You will sign up for a codewalk slot using a personalized URL that you will receive

Grading Criteria

- Your solution will be graded using a detailed rubric
  - It's on the website– go read it.
- You will be judged on
  - adherence to coding & documentation standards
  - appropriate use of tools & techniques
  - your ability to explain your program and your design decisions

Individual vs. Pair Work

- The first 4 problem sets will be done individually

- After that you will work in pairs.

- We will assign the pairs.

- There's lots more to be said about working in pairs– see the web site for more

Summary

- You should now be able to
  - explain how the "flipped classroom" model works
  - understand how each module is organized
  - explain how to find your learning objectives for each lesson
  - understand how homeworks are assigned and graded

Next Steps

- If you have questions about this lesson, ask them on Piazza
- Go on to the next lesson