

COMPSCI 220 Programming Methodology

Software

Overview

This course will use a couple of web-based services to manage communication and assignment submissions. You will be required to create accounts for some of the systems mentioned below at the start of the course. Failure to do so will make it difficult for you to complete the course successfully. You will be notified at the start date of the course and provided instructions on which applications and/or services you must register for and/or download.

Piazza

Piazza is an online discussion management system. It will be used as the hub for communication in this course. All questions and answers will be posted to Piazza. Your questions will be answered as quickly as possible by the course staff. You will be responsible for visiting Piazza several times a day to see updates. We will be posting assignment, quiz, and exam information on Piazza. You should review the Piazza feature list to get an understanding of how to use Piazza. Please do not email the instructor and/or teaching assistants directly. All communication should go through Piazza. It is possible to post directly to the course staff (rather than public) to discuss anything that should be kept hidden from the rest of the students. Emailing the course staff directly may go unanswered. You will receive an invitation to join the course on Piazza on or before the course start date.

- <https://piazza.com> (Piazza Website)
- <http://bit.ly/1Noia7x> (Piazza Help and Support)

Moodle

We will be using Moodle for assignment submissions, online quizzes, and publishing grades. We will not be using Moodle for online discussions. The rest of the course information including lecture material, project assignments, quizzes, and exams can be found through the course website. We will also be using i-Clicker in this course for active participation during lectures. You will need to register your i-Clicker remote with Moodle in order for you to receive a grade for participation. Please log in to Moodle and follow the Student registration process to register your remote during the first week of class.

- <http://bit.ly/1Noi6Ve> (Moodle at UMass)

Scala

This course uses the *Scala Programming Language* as a vehicle for exploring advanced programming techniques. We will also be using the Scala Activator tool from Typesafe to automatically build and run Scala code. You are required to download and install both Scala and Activator to your personal computer to follow lectures and complete assignments.

- <http://goo.gl/UrYl> (Scala Programming Language)
- <https://goo.gl/scBy7E> (Activator Download)
- <http://goo.gl/Oxn2Ff> (Scala API Documentation)

Integrated Development Environment (IDE)

We will be using IntelliJ IDEA for programming assignments. The IntelliJ IDE provides fully integrated support for the Scala programming language and related tools. Fortunately, JetBrains provides their professional grade IDE (IntelliJ Ultimate Edition) free to students. You will need to apply on their

website and they will issue you a license. There are several different IDEs supported by JetBrains - we will be using IntelliJ IDEA for Scala development. You will need to download the IDE to complete the programming assignments in this course. The first assignment for this course will explain the installation process to ensure that your environment is setup properly.

- <https://goo.gl/n3oI8E> (Student License Request)
- <https://goo.gl/yBR7ux> (IntelliJ Ultimate Edition)

Git Version Control

Most of the assignments will require you to use version control for managing your source code. We will be using Git, a popular distributed version control system. Git is available for both Windows and Mac. Git is also available on Linux and will require you to install it for your particular distribution. Although it is possible to use Git entirely from within IntelliJ it is important to understand the underlying machinery of Git use from the command line. To follow along with examples in class and to practice Git commands you will need to download a version of Git for your operating system.

- <https://goo.gl/Wd3ZJs> (Git Download)
- <https://goo.gl/h6mJ53> (Git-Bash for Windows – recommended for Windows)

Terminal

Although we will do most of our programming in an IDE it is extremely useful to be able to execute commands from a terminal application. Although IntelliJ has a terminal plugin (which works really well and we will use it), it is important that you have a good terminal application installed for your operating system to follow along with examples in class (so you need not open the IDE). If you are running Linux you already have a terminal so you need not install anything. Mac OSX comes with the Terminal application; however, you may want to explore iTerm2. Windows has the Command prompt, which is OK, however, we recommend installing Git-Bash which will give you a more Unix-like experience along with Git support.

- <https://goo.gl/LrMeq1> (iTerm2)
- <https://goo.gl/h6mJ53> (Git-Bash for Windows – recommended for Windows)