Intensive 8-Week Java Web Development

Montgomery College
Information Technology Institute

Fall 2019
America's Promise Grant
Monday-Friday
9:00am – 5:00pm

Instructor: Jennifer Lee, jennifer.lee1@montgomerycollege.edu
Grading: Pass/Fail

I. Rationale:

According to the U.S. Department of Labor employment of software developers is projected to grow 24 percent from 2016 to 2026, with 302,500 jobs added within that timeframe. This is well above the average for all other occupations. The Java Web Developer Boot Camp is an 8 hour a day (9 am - 5 pm, M-F) 8-week, immersive software engineering program funded by the Department of Labor in order to meet the coming tech demand.

II. Course Aims and Outcomes:

The Java Web Development Bootcamp takes you from your first java program to developing a web application. This course will give you a fast start on your career so you can take it to the next level. The course will teach you by forcing you to write over 130 java applications, including 5 major web applications. Programming challenges will keep you on your toes.

You will learn to create web page and develop skills creating applications using the MVC pattern and Spring Boot framework. Using the templating engine Thymeleaf you will learn to connect to SQL databases using object relational mapping. Most importantly, all assignments are submitted through git, so you will learn to develop using best practices in class, to make it easy to contribute value when you are on the job.

Upon the completion of the bootcamp, you will receive a voucher for one free exam of the AWS Certified Developer – Associate certification. However, we will not cover materials on this certification during the bootcamp. This is offered as an incentive for your completion.

- Git
- Program Design
- Core Java
- Object Oriented Design
- HTML/CSS
- Intro to Spring Boot
- SQL and Database Management
- Security

III. Absence Policy:

Every student is responsible for attending all sessions of each course in which he/she is enrolled. The attendance requirements are determined by the Grant, not the instructors. The instructors are required to take attendance each day and report our information to the Grant project manager. You are allowed three absences. Any more than that will prevent you from receiving a certificate of completion for the course. If you are late three times that will count as one absence. If you're going to be late or absent on certain days, let the instructor know beforehand.

Absence - A student is absent any time he or she is missing. You are allowed one absence without penalty for any classes longer than 2 weeks.

Tardy - A student is tardy when he or she arrives 15 or more minutes after the designated start time. Being tardy 3 times will count as one absence.

IV. Code of Conduct:

Cell phones must be kept on silent or vibrate inside the classroom. Absolutely no phone calls inside the classroom. Voice can carry in the hallway so please use the student lounge for calls.

The blinds must stay closed. When open they create a glare that makes the screen or board difficult to read for many students.

This class is designed to get you to learn by coding. It is a collaborative learning space, and it is ok to ask the instructor or your classmates with questions, but please keep the noise level down out of respect for the other students. We will enforce this rule as needed throughout the course.

You are free to ask for help on all days except for the last day, when you are working on the individual challenge. You may however ask questions related to Git and Github. The deadline is 5pm on Friday unless otherwise specified.

Be kind to others. Do not insult or put down other classmates. Behave professionally. The people you meet in this class could help to expand your professional network.

Take the allotted breaks. Sometimes giving your eyes a break from the screen can boost your error-finding ninja skills.

Please do not have any drinks at your desk that are not tightly covered. If the instructors think the drink presents a hazard to the keyboard or computer then you must move it.

No personal laptop during class time.

V. Course Content:

Date	Concepts	Applications
Week One	Using Git and GitHub Basic Java Identifiers Comments Variables Coding arithmetic statements Special Characters (for Display) Randomness Boolean Expressions Compound Boolean Expressions What If (Intro to Conditionals)	Find the Average Test Score Calculate the Amount of Rainfall Sort Letters in Ascending Order Special Character Assignment Monopoly Dice Printing Grades Triangle Calculator
Week Two	Using and Understanding Strings Creating Methods String and Number Formatting Switch Statements While Loops For Loops Java Collections vs. Maps Arrays ArrayLists HashMaps	Mowing Time Programming Switch Statement Activity Guessing game Simple Eliza Application Fizz Buzz Variation on Pig Simple Eliza Application II Choose Your Adventure Movie List II Full Eliza Application Gift Advisor
Week Three	Object-Oriented Java Encapsulation Polymorphism Inheritance Basic OOP Applications Composition Abstract Classes	Create a Car App Create a Book Class App Create an ATM App Create a Book Database Student Transcript App

Week Four	Intro to HTML Comments, Tags, and Hyperlinks Span and Div Forms and Images CSS and the box model Twitter Bootstrap	A Crabby Website Favorite Movie Website Your Own Blogsite
Week Five	Intro to Spring Boot Intro to Thymeleaf Handling Form Values Creating Java Beans Form Validation	Hello World Songs Application Movies Application
Week Six	Saving Data to a Database Looping through a list with Thymeleaf Complete data lifecycle Many to Many Relationships One to Many Relationships One to One Relationships	Job Application TODO List Application Classes and Courses App Actors and Movies App Movies and Directors App
Week Seven	Basic Security Custom Login Pages Roles and Page Permissions Database Based Authentication Persisting User Information Implementing User Registration Using Page Fragments with Thymeleaf Uploading Images with Cloudinary	Bullhorn Application Your Own Application
Final Week	Teamwork Git Team Workflow Refesher	Final Projects

(*Subject and Content Subject to change as deemed necessary*)

VI. Grading Procedures

You will receive a certificate of completion for the grant if you meet the attendance requirements and submit all the Friday projects. Your Friday projects will be graded as Pass or Fail. You may not receive a certificate of completion if you fail two Friday projects in a row.

VII. Academic Integrity

All work submitted are expected to be your own.

VIII. Additional Resources

Java Documentation and Tutorials

https://docs.oracle.com/javase/tutorial/
https://docs.oracle.com/en/java/
https://www.cs.usfca.edu/~parrt/course/601/lectures/java.overview.html
https://learnxinyminutes.com/docs/java (Links to an external site.)

Spring Resources

https://www.baeldung.com/
https://www.thymeleaf.org/documentation.html
http://spring.io/

Coding Games

http://lightbot.com/hour-of-code.html
https://codecombat.com/

Self-Learning

https://www.sololearn.com/Course/Java
https://www.lynda.com/search?q=java

More practice writing code:

https://coderbyte.com/challenges
https://www.hackerrank.com/domains/java