FULL-TIME
JAVA BOOTCAMP
DETAILED COURSE OVERVIEW AND SYLLABUS
FULL-TIME JAVA COURSE OVERVIEW

OVERVIEW

The full-time Java bootcamp at Grand Circus is designed to transform you from coding novice to programming powerhouse in twelve weeks of intensive technical and career readiness training. Currently running on over three billion devices, the Java programming language is one of the most in-demand on a national level. Java can be used across platforms, scale without compromising security and handle extreme traffic. All along the way and after bootcamp, get the tried and tested training and support you need for a successful job search.

WHAT YOU’LL LEARN

• Arrays, Classes and Methods
• Packages, Interface, Soft Skills and Version Control
• Exceptions, Structures, HTML and JSP page
• Sessions, Cookies, JSTL and Streams
• Collaborative software development and version control with Git and GitHub
• Software development and programming best practices that separate great developers from the rest
• Best practices for deploying applications
• Consuming and integrating third-party application programming interfaces (APIs) in an application
• Agile application development

WHAT TO EXPECT IN CLASS

• Explore new concepts and tools through expert-led lectures and discussions
• Complete coding exercises to reinforce newly learned skills
• Dive deeper into topics and techniques via independent, pair, and group programming labs
• Receive individualized feedback and support from your expert instructional team
• Apply what you’ve learned to homework assignments and mid-term projects and demo day, building out a professional portfolio to show off job-ready skills

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Any items on this syllabus are subject to change at any time and without prior notice at the discretion of Grand Circus staff. This syllabus is used strictly as a reference and specific course content is catered to the needs of the students.

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NAVIGATING YOUR NEW CAREER PATH

As a Grand Circus full-time bootcamp student, you’ll receive personalized support from our team of career coaches and program managers designed to support your future career ambitions, not only for your first job after bootcamp but for your long-term career in tech (or wherever your new skills will take you!). Navigating a new industry can be difficult; our career services team has crafted a learning approach that teaches students how to identify goals, research their options and find their competitive edge. This collaborative relationship between students and staff takes hustle and hard work. Our proven process works when students work with the process.

THROUGHOUT BOOTCAMP YOU WILL:

• Learn skills to combat impostor syndrome, something many developers struggle with. We'll help you identify signs of self-doubt, ways to overcome them, and guide you through constructive ways to give and receive feedback
• Understand and prepare for the career search process in your new industry
• Determine career goals and keep them motivated in successfully finding their dream job
• Our team works directly with students to identify and fulfill “must-haves” for their in-person and digital presence. Even the smallest details matter and we support each student as they work toward having a polished approach to the career search
• Practice behavioral and technical interviews with upfront training, tips, and mock interviews to improve your interviewing confidence
• Hear from guest speakers and participate in workshops designed to prepare you for your new career
• Learn to assess your skills objectively against job descriptions
• Build your unique professional brand
• Show off your new skills and connect with employers at Demo Day
• Get connected to the tech community through hosted meetups and community events
UNIT ONE: GETTING STARTED

Set yourself up for success with two weeks of online self-paced lessons covering essential programming concepts tools and basic foundational skills to begin programming in Java. Orient yourself with basic programming tools and techniques. This unit provides the foundation of web programming that will be built on in the following units. Get help with weekly coaching with our team of highly-qualified instructors. Gauge your bootcamp-readiness with a final assessment.

- Welcome to Java
- Using an Integrated Development Environment
- Fundamentals of Version Control (Git/GitHub)
- Data Types & Basic Syntax
- Operators, Expressions, and Statements

UNIT TWO: CORE JAVA

Build on the foundational concepts to incorporate more logic processing strategies. Gain exposure to concepts and skills that will encourage learner independence and autonomy. Learn the skills to focus on problem solving strategies that encourage efficiency.

- Control Statements: Conditionals and Loops
- Methods
- String Manipulation
- Regular Expressions
- Arrays, Collections, and Generics
- Pair Programming
- Coding best practices
- Debugging
- Exceptions and error handling
- Documentation
- Version Control: Branching and Merging
UNIT THREE: OBJECT-ORIENTED PROGRAMMING

Introduction to Object Oriented Programming, and how to model classes based off of real world problems and scenarios. Utilize OOP concepts reinforce and build out a console based application in a team style environment using agile practices.

• Introduction to OOP
• Classes and Objects
• Inheritance and Polymorphism
• Interfaces and abstract classes
• File I/O
• Mid-Term Project

UNIT FOUR: COMPUTER SCIENCE TOPICS

Gain an understanding of core Computer Science concepts in combination with skills that are applicable to roles and actions that can be used in the real world.

• Data Structures and algorithms
• Test Driven Development
• Design Patterns

UNIT FIVE: CORE FRONT-END SKILLS

Gain an understanding of what technologies are used to build static websites. These skills will later be used to build out fully functional Java web applications.

• HTML
• CSS
• JavaScript

UNIT SIX: DATABASES

Web applications need data. Create SQL databases to manage and manipulate information.

• Relational Databases
• SQL
• MySQL
UNIT SEVEN: WEB APPLICATIONS WITH SPRING

Learn how to build fully functional, scalable web applications combining various technologies learned throughout bootcamp. Gain exposure to tools that will make working in OOP environments more manageable.

• The MVC Design Pattern: Models, Views, and Controllers
• Spring, Spring MVC, and Spring Boot
• Maven Build Manager
• JSP and JSTL
• Tying in Databases with JDBC and Hibernate

UNIT EIGHT: ADVANCED WEB TOPICS

Learn how to build and consume REST services, in conjunction with state management to track users and data throughout the application lifecycle. Learn the skills needed to deploy web applications to cloud based servers.

• Sessions and cookies
• REST Architecture
• Consuming and Creating Web APIs
• JSON and XML
• Amazon AWS and cloud deployment

UNIT NINE: ADDITIONAL TOPICS

Utilize all of the skills learned throughout bootcamp to build a team based project that requires using Spring MVC, core Java and OOP concepts, a database, and agile practices to showcase to potential and future employers and add to your portfolio.

• Security
• AJAX
• Agile Project Methodologies
• Final project preparations
UNIT TEN: FINAL PROJECTS

Following an agile software development process, students work in groups to complete web application projects of their choice. Each team first creates a minimally-viable product to fulfill mandatory technical elements, then iterates based on feedback, refining and adding additional features. At the end of the bootcamp, teams present their projects to family and friends at Graduation Night and then employers at Demo Day!

The final project gives students extensive practice in:

- Following an agile process
- Collaborating on a software development team
- Receiving and acting on feedback
- Reviewing and documenting code
- Maintaining and building a codebase through good Version Control processes
- Putting the technologies they’ve learned in bootcamp into practice by creating a full-fledged web application

CAREER READINESS

Students build their career and soft skills in sessions throughout the bootcamp:

- Impostor Syndrome + Giving & Receiving Feedback Workshop
- Career Inspiration & Exploration
- Employable You (LinkedIn Workshop)
- Communicating for Success
- Interview Prep
- Distinct Value Add
- Mock Behavioral & Technical Interviews