

Software Engineering

Bootcamp Brochure

MANCHESTER 1824
The University of Manchester

In partnership with HyperionDev

Table of contents

Overview 3

Key tools and languages. 4

Prerequisites 4

What to expect 5

Our unique approach 6

Personalised mentorship 7

How we help you get hired 8

Syllabus outline 10

Potential career paths 13

Participant success stories 14

Technical requirements 15

Take the next step toward your tech career 15

Overview

Software engineering forms the backbone of our digital world, powering everything from mobile apps and online platforms to the critical systems used in business, healthcare, and finance. As industries undergo rapid digital transformation, the demand for scalable, secure, and well-designed software continues to rise, driving strong global demand for skilled developers.

According to the World Economic Forum's Future of Jobs Report 2025, Software and Applications Developers remain among the fastest-growing roles worldwide, with strong demand projected through 2030.

This online bootcamp offers a structured, accessible pathway into software engineering. Participants will explore key topics including programming fundamentals, databases, web development, system architecture, and full-stack application development using Django. You will also gain hands-on experience with industry tools such as Python, Git, GitHub, Docker, and deployment pipelines, while learning to write clean, testable, professional-grade code.



DURATION
3 Months, Full-Time
35-40 Hours a week

6 Months, Part-Time
5-10 Hours a week



EXPERIENCE
None-Required



FORMAT
Online, Self-Paced

Throughout this bootcamp, you will:



DEVELOP A STRONG PROGRAMMING FOUNDATION

Master Python, object-oriented programming, and core software design principles to write clean, efficient, and reliable code.



WORK LIKE A PROFESSIONAL SOFTWARE ENGINEER FROM DAY ONE

Learn tools and workflows used by real engineering teams to collaborate, manage complex codebases, and build software for real-world use.



BUILD FULL-STACK WEB APPLICATIONS

Create responsive, database-driven web apps using HTML, CSS, Bootstrap, and Django, following real-world architecture and design practices.



DEPLOY AND SCALE REAL PROJECTS

Use Docker to package your apps, deploy them with GitHub, and build capstone projects that reflect real-world engineering tasks.

Key tools and languages























And more...

By the end of the program, you'll be fluent in the technologies that drive the software engineering industry, ready to deliver insights and build solutions with confidence.

Prerequisites

This is a beginner-friendly program with no formal prerequisites. Whether you are new to tech, looking to formalise and grow your existing skills, or have recently completed your studies and are ready to launch your career, this bootcamp is designed for you.

You'll be guided through the tools, libraries, and methodologies employers value most, ensuring you're well-prepared to meet industry demands.

Not sure if this bootcamp is right for you?
Our **Admissions Team** is here to discuss your background and learning goals to help determine whether the Software Engineering Bootcamp is the right fit for you.



What to expect

Our bootcamp experience is **built on three core pillars**:

- personalised academic support;
- a flexible, supported learning journey you can shape around your life;
- and career services designed to get you hired.

Whether you choose to study part-time or full-time, you'll benefit from a blend of expert instruction, real-world projects, and personal mentorship to help you build job-ready skills on your schedule.

A dedicated support team

You'll be backed by a dedicated team whose goal is to help you succeed, from your first module to your job search.

ACADEMIC MENTORS AND FACILITATORS

Industry experts review your work, provide detailed 1-on-1 feedback, and guide your understanding of key concepts. They'll help ensure you're learning and applying your skills effectively.

CAREER SERVICES COACHES

Specialists who support your career development with job search strategies, interview prep, portfolio building, and long-term planning. They're here to help you move confidently into the job market.

Flexible learning that fits your lifestyle

Life doesn't pause while you learn. That's why our bootcamp is designed with flexibility at its core. You'll have the freedom to work through self-paced lessons and exercises around your existing commitments. Our team is available 24 hours a day to provide you with support.

A well-rounded course experience

As a bootcamp participant, you'll engage in project-based learning designed to spark curiosity, build technical fluency, and provide practical experience.

Throughout the bootcamp, you will:

- Explore new tools and concepts through self-paced online lessons.
- Reinforce your knowledge by completing hands-on tasks and exercises.
- Receive 1-on-1 human-led task reviews to check for understanding and real-world application.
- Participate in live facilitator-led lectures and interactive discussions to dive deeper into software engineering topics, industry trends, and best practices.
- Build real-world projects that not only reinforce your learning but also serve as portfolio-ready proof of your capabilities.

Our unique approach

Human-led feedback is the best way to learn, and we've built our entire model around it.



CODE REVIEWED BY HUMANS, NOT MACHINES

Forget AI feedback. Our expert code reviewers give real, quality input. They teach you best practices and help you think and code like a developer.



PROGRESS WITHOUT THE PANIC

Learning to code can be hard. That's why our on-demand mentors help you troubleshoot fast so you can keep your learning smooth and steady.



BUILD SKILLS EMPLOYERS ACTUALLY WANT

We teach you to write code that's clean, scalable and ready for the workplace. We simulate real-world environments that mirror what senior developers do, so you're job-ready faster.



Personalised **mentorship**

GUIDANCE FROM ACADEMIC CODING MENTORS

Work one-on-one with experienced academic coding mentors who align with your learning goals. Receive tailored feedback through scheduled calls and ongoing email support to keep your progress on track.

A COMMUNITY THAT GROWS WITH YOU

Join a vibrant cohort of fellow career changers. Take part in live online lectures, tutorials, community chats, and virtual meetups—designed to keep you motivated and supported every step of the way.

A SAFE SPACE TO LEARN AND GROW

Our human-led mentorship creates a trusting, supportive environment. Progress at your own pace, discuss challenges openly, and overcome obstacles without fear of failure.

How we help you

get hired

Learning job-ready skills is just the beginning. Our dedicated Career Services Team is here to support you in making a confident transition into a professional role, whether you are entering a new industry, upskilling in your current position, or changing career paths.

88%

Employment rate*

THROUGHOUT YOUR LEARNING JOURNEY, YOU'LL GAIN PRACTICAL TOOLS AND GUIDANCE TO HELP YOU:

- Understand the job market and create a targeted job search strategy
- Develop a personalised and actionable career plan
- Build a strong professional brand, both online and offline
- Prepare for interviews with confidence and clarity
- Stay motivated with structured, ongoing support
- Navigate your first 90 days with expert guidance
- Gain access to our private alumni network with exclusive benefits

*According to the HyperionDev 2024 Graduate Outcomes Report

EMPLOYER CONNECTIONS AND INDUSTRY EXPOSURE

We work with select hiring partners to offer networking opportunities through spotlight events, hackathons, and community initiatives. When there's a strong fit, we also share standout student profiles with partners—giving you the chance to get noticed for roles that align with your skills and goals.

INTERVIEW PREPARATION

We simulate real-life interview scenarios through mock interviews to help you build confidence and refine your technique. Whether you're sharpening your general interview skills or preparing for a specific role, our coaches tailor sessions to align with the job description and expectations of the company you're interviewing with.

GOAL-BASED GUIDANCE

A tailored career action plan is developed based on your unique background, career aspirations, and current readiness. This plan is broken down into manageable weekly goals and tasks that you'll work through with your career coach, helping you stay focused and make measurable progress toward your job search objectives.

JOB SEARCH MATERIAL REVIEWS

Career Coaches provide personalised feedback on your resume, LinkedIn profile, cover letter, and technical portfolio on GitHub (where relevant), ensuring each aligns with current industry standards and effectively showcases your skills to employers.



Syllabus outline

What you'll learn:

LEVEL 1 - Python for Software Engineering

MODULE
01

INTRODUCTION TO PROGRAMMING

- Get started with the fundamentals of programming.
- Learn to plan your code using pseudocode before writing your first Python program.
- Understand how to use variables, data types, and control structures to guide program flow.
- Use logical and arithmetic operators to build clear and functional code.

CAPSTONE PROJECT – VARIABLES AND CONTROL STRUCTURES

Apply your foundational programming skills to create an investment calculator using variables and conditional logic.

MODULE
02

PYTHON IN PRACTICE

- Deepen your Python skills through practical programming challenges.
- Work with common data structures like lists and dictionaries, and build your understanding of loops, file handling, and text manipulation.
- Learn to write modular programs with functions, apply defensive programming techniques, and debug your code using stack traces.

MODULE
03

ADVANCED PYTHON, SHELL SCRIPTING, AND VERSION CONTROL

- Advance your programming with object-oriented principles (OOP) such as classes, inheritance, and modular design.
- Explore recursion, 2D lists, and key algorithms for sorting and searching.
- Learn to automate tasks with shell scripting and manage code versions using Git and GitHub.

CAPSTONE PROJECT – TASK MANAGER

Build a functional task manager application from scratch, applying your knowledge of programming logic, OOP, and version control.

LEVEL 2 - Introduction to Software Engineering

MODULE
04

DATA MANAGEMENT

- Explore the world of databases and database management systems.
- Learn to design efficient relational databases using normalisation techniques to minimise redundancy.
- Write and execute SQL queries, and use SQLite to create and interact with databases directly from your applications.

CAPSTONE PROJECT – DATABASES

Design a software system that interacts with a relational database.

MODULE
05

INTRODUCTION TO WEB DEVELOPMENT

- Learn how modern web systems are structured and how they communicate.
- Explore key network protocols like HTTP and the client-server architecture.
- Build static web pages using HTML and CSS, and enhance their structure and accessibility with semantic HTML.
- Apply Bootstrap to develop responsive layouts that adapt across devices.

MODULE
06

BUILDING SCALABLE WEB APPLICATIONS

- Apply your knowledge of design and architecture to build full-stack web applications.
- Create Django-based projects like a sticky notes app and a full eCommerce platform, integrating testing and modular coding practices.
- Learn how to expose your application's functionality through APIs and connect with third-party services.

CAPSTONE PROJECT – NEWS APPLICATION

Design and build a dynamic news application using Django, consolidating your full-stack development and testing skills. Upload your project to GitHub to showcase your code quality, structure, and technical progress.

LEVEL 3 - Deployment and Development Workflows

MODULE
07

TOOLS OF THE TRADE

- Learn how software is deployed and maintained in the real world.
- Deploy static websites using GitHub Pages, manage collaborative workflows with Git, and package applications using Docker.
- Understand the importance of internal and external documentation, and generate project docs using Python docstrings.

CAPSTONE PROJECT – CONSOLIDATION

Refine and extend your Django project by adding documentation, using version control, and containerising your application for deployment.

***DISCLAIMER:** Please note that the content and sequence outlined in this curriculum are subject to change. While we aim to cover all topics listed, specific content may be modified, added to, or omitted based on educational needs, industry developments, or instructional requirements. This flexibility is designed to provide the most current and valuable educational experience possible. By enrolling in this course, you acknowledge and accept these potential modifications.



Potential career paths

After completing your bootcamp, you can apply for roles as an employee or as a freelancer in various positions such as:



Back-end Developer

Back-end Developers build and maintain the server-side infrastructure of websites and applications. They ensure that systems are secure, scalable, and able to communicate efficiently with front-end interfaces.



Junior DevOps Engineer

Junior DevOps Engineers support the tools and processes that connect software development and IT operations. They assist in automating workflows, maintaining development environments, and helping ensure code is smoothly deployed.



Software Engineer

Software Engineers design, build, and maintain software systems. They write clean, efficient code, solve technical problems, and contribute to all stages of the development lifecycle.



Software Designer

Software Designers plan and model the architecture of software systems. They focus on how different components interact and ensure that user needs, performance goals, and technical constraints are met.



Systems Analyst

Systems Analysts evaluate existing IT systems and propose enhancements or new solutions to improve efficiency. They act as a bridge between business requirements and technical implementation.



Software Tester

Software Testers play a critical role in quality assurance, running manual and automated tests to ensure that software performs reliably and meets user expectations before deployment.

86%

Tech Industry Transition*

86% of our participants move into new roles in the tech industry, while 14% apply their new tech skills in other industries.

*According to the HyperionDev 2024 Graduate Outcomes Report

Participant
success stories

Join an international community of +13,000 alumni.



NTSIKA

From Fiber Technical Support to Junior Software Engineer

Ntiska transitioned from a fiber technical support role to becoming a Junior Software Engineer after completing a Full Stack Web Development Bootcamp. The experience helped him break into the tech industry and boosted his confidence. He sees software development as a blend of science and art, combining his passions for computer science and music.



MARIA

From Bootcamp to Top Recruit

After completing the Software Engineering Bootcamp, Maria Ouvarova strengthened her Python skills and revamped her LinkedIn profile and resume. This helped her land job interviews in cybersecurity at an investment bank, turning her newfound skills into real career opportunities.



ETHAN

From Engineering Student to Cloud Technologist

After stepping away from a mechanical engineering degree, Ethan Maregele rediscovered coding through gaming and side projects. He joined a Software Engineering Bootcamp to formalise his skills and regain confidence. He now works as a Junior Cloud Technologist at Cloud Zday, using AWS and other cloud platforms.

Technical requirements

- Participants will need **access to the Internet and a computer**.
- We recommend that you **use the Google Chrome browser** when accessing the online learning platform. Although this is not a requirement, we've found that this browser performs best for ease of access to course materials.
- The Software Engineering Bootcamp also requires **downloading additional software and resources**. During your program, these additional software and resource requirements will be communicated to you.
- You will **use the free trial versions** during your time on the course and will not need to purchase additional software licenses.

Take the next step

toward your tech career

Whether you're just exploring or ready to dive in, we've got an option for you:



BOOK A CALL

Chat with our Admissions team about your goals, course fit, and financing options.



JOIN AN ONLINE INFO SESSION

Get a firsthand look at how our bootcamps work.



APPLY NOW

Ready to start? Head straight to the course page and kick off your application.

The University of Manchester is collaborating with online education provider HyperionDev to offer a portfolio of high impact outcomes-oriented online bootcamps. The partnership aims to broaden access to tech education through an engaging human-led online model.