

SOFTWARE DEVELOPMENT

2024

We develop different.
Instructor led coding bootcamps for everyone.

www.techeducators.co.uk

You don't actually
need a **phd**
A Levels or an
Undergraduate Degree
to work in tech.



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Our Mission

To support the future of tech talent

Our mission at Tech Educators is to cultivate the tech talent of tomorrow by making high-quality, software development education accessible to everyone, at any level or personal circumstance.

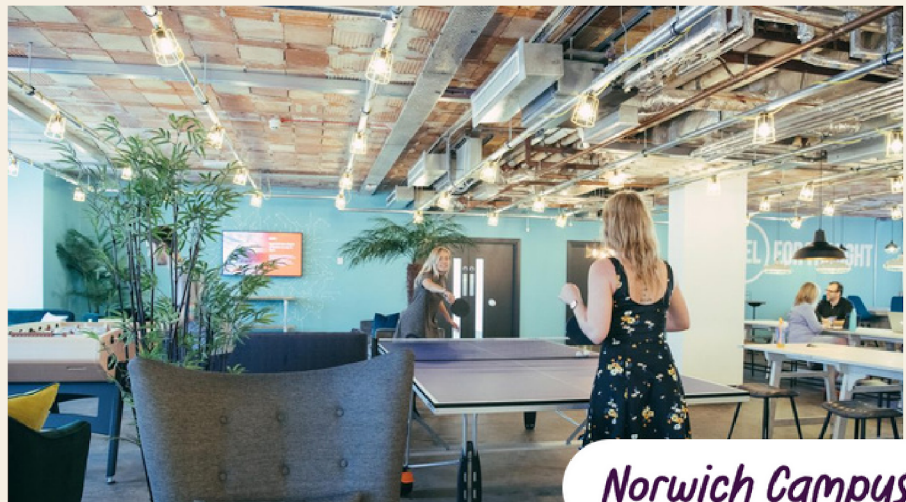
Our comprehensive courses, expert instructors, cutting-edge curriculum, and hands-on approach, equip people with the practical skills they need to succeed right away, and the know-how to stay relevant as their career develops. From 'hello world' to world class.

Supporting beginners to experienced practitioners, we're committed to ensuring that no one gets left behind in the rapidly evolving digital landscape. We provide a supportive and inclusive community where everyone can learn, grow, and thrive, as they build a better future.

Learning to code is a journey and through this course outline, we hope to give you an idea of how that journey with Tech Educators would progress. Whether you choose to join us in one of our locations around the country, or prefer an online approach. Our courses are always instructor led and outcomes focussed.



James Adams, Founder and CEO



Norwich Campus

The taster session

One day

In this one-day workshop, you will get a sneak peek of what it is really like to become part of the Tech Educators community. You will learn how websites are built, and code your very first web page using industry-standard tools and professional coding practices.

Whilst this may be the very first interaction you have had with code, don't worry. We are here to guide you every step of the way and give you all the information that you need to decide if this course, and this career path is for you.

Learning outcomes

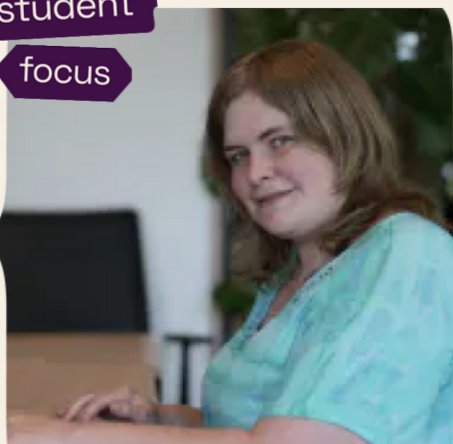
- Understand the basics of what it means to be a professional software developer.
- Understand how HTML and CSS work together to create the modern web.
- Create a complete website. Know how to deploy your website and be able to share your accomplishments with friends and family.
- Be able to identify whether a career in coding and the Tech Educators program is right for you.

Ready to proceed?

What a difference a day makes. After this one day taster session hopefully you like us, we like you, but we all love coding and where we think it can take you in your journey and your career. If after the one day taster session you are ready to progress, we can move onto the full course.

student

focus



Jessica Bane, Lead Quality Engineer, Instanda

"If you don't go for something. You will never know what you could have achieved. The team at Tech Educators have been so incredibly supportive throughout the course. It's tough, but when it gets tough, you have an entire community around you to support you. That's what the bootcamp is about."

"When I think back now on what I knew before I started, how quickly I learnt, and how fast it went. I didn't realise just how great the experience was, until I reflected on it."

The foundations of Software Development

Four weeks

In our foundations module, students move beyond the concepts covered in Taster Session to get a tour of the tools and techniques of modern developers and learn the foundations of software development from the front and back end

We will dive much deeper into HTML, CSS and JavaScript, getting your setup ready to take on the world as a super developer, or a career in tech. We will cover core web fundamentals, as well as beginning to heavily focus on programming logic and development tools.

Learning outcomes

- Configuring a computer and see the workflow for serious software development, with free and open-source tools.
- Dive deeper into the proper usage of “semantic” HTML tags.
- Practice utilising CSS to make your web pages look just the way that you want.
- Get introduced to the subtle language of programming and concepts like Variables, Conditionals and Loops.
- Learn how to utilise JavaScript.
- Be able to high five your new found project team and fellow coders as you’ve overcome the challenges of getting your setup just the way you want it.
- Define the structure of a web page utilising the semantic hierarchical structural conventions of HTML5.
- Apply CSS and HTML to implement page layout styles including grid, fluid, and responsive techniques; and to style content with colour, typography, and images
- Utilise JavaScript to make web projects interactive, such that user input is stored and processed to create updated and personalised content when a user interacts with a page
- Write JavaScript that leverages the fundamentals of Computer Science, the Object-Oriented Programming paradigm, basic data types, data structures, and basic algorithms, so that the code is efficient, error-free, and matches commonly accepted standards and practices of syntax and style, as measured by the code’s functionality and ability to pass a code linter



Cambridge Campus

Careers focus

Every Friday

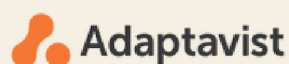
Every Friday we focus on careers and outcomes of our students. We understand that each student is different and so are their career aspirations, what relevant skills they join us with and where they want to take their career.

Our Friday sessions continue to work on development, but also allow our students to view the world of industry and prepare for joining the tech community. We work on the soft skills needed to get a career in tech, as well as being joined by some of the industries best speakers, to explore what a career in tech really means.

Learning outcomes

- Articulate with some certainty the type of career path you would like to take as you step into the world of being a software developer.
- Finalise and cement any further reading and concepts that need to be defined and embedded with our mentors.
- Understand and have visibility of your own strengths and areas for improvement as a developer.
- Have a fully formed CV, be able to understand how to search for tech specific jobs and actively be applying for and attending interviews.

Previous speakers work at....



"We have developed the entire career preparation program around our students and industry needs.

This is the time where we focus on embedding both the software development skills and soft skills like teamworking, project management, computer literacy and critical thinking and considering where this new knowledge can take our students."

"The mentor support, talks, and fireside chats are incredibly valuable to everyone involved."



Jenna Buxton, Student Success Executive

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be an **evil**
private island
super-villain
to work in tech.



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Intermediate Software Development

Six Weeks

This phase of the course represents delivering a deeper understanding of the Software Development process and introducing deeper, more complex processes, tooling and frameworks to enable students to develop modern web applications utilising next.js. The same framework used by Netflix, Google and other leading software platforms and providers.

Learning outcomes

- Collaboratively design and create web applications from scratch using MVC patterns, built with professional-grade HTML, CSS, and JavaScript using the React JavaScript library
- Work with string, array, and object data structures and algorithms to solve code challenges with pure JavaScript programming
- Build dynamic front-end and back-end applications deployed to cloud platforms
- Explain the fundamentals of how the World Wide Web works, over the internet
- Utilise dependency management techniques to build with third-party libraries such as ExpressJS and React-Bootstrap
- Persist data in a NoSQL database, sourced from third-party APIs or user-generated content
- Authenticate users using a third-party OAuth library.
- Follow Agile software development practices during week-long sprints, including pair-programming, stand-ups, daily retrospectives, project management with Kanban boards, regular refactoring, and working in a shared codebase.
- Create a new Next.js Application using 'create-next-app'.
- Implement Navigation and routing through both (/pages & /app)
- Deploy 'Page URL' parameters and query strings / searchParams.
- Understanding the URL in Next.js. Not-Found.
- Page meta tags and the HTML document (/pages & /app)
- Implement next generation styling techniques using TailwindCSS or CSS Modules
- Implement modern asset deployment such as Images, Fonts and Scripts
- Understand the difference between Static rendering / Incremental rendering, when and how to use them.
- API Routes: add a route, get -- HTTP Verbs, POST a comment, GET comments
- Understand and be able to persist data through clients such as Vercel KV and Redis
- How to handle 'Forms' & 'Validation' within Next.js
- What are mutations: naming things, cache invalidation, and off-by-one errors.
- Understanding streaming & Suspense
- Implementing Middleware and Clerk Auth for comment users
- Protecting the API POST route within Next.js



Hayden Kerr, Developer, GoDesk

"Learning a second framework really helped me to firm up my knowledge. Whilst you can tell its built on React, it isn't React, it's different. It's better.

I am working in an incredible startup that are really nurturing me as a junior developer and I am getting to put together my more advance learnings into this new role."

Project Weeks and Graduation

Two Weeks (Week 4 and Week 12)

Project weeks are designed to bring together all of the learnings from the foundations and intermediate software development sections of the programme, into two capstone projects to be delivered by the students. The first of these project weeks is an internal project delivered to fellow students, with the latter culminating in a graduation ceremony, where students present to their peers, local employers and family members.

Learning outcomes

- **Programming Proficiency:** Demonstrate proficiency in the programming languages and technologies covered in the bootcamp.
- **Problem Solving:** Apply problem-solving skills to design and implement solutions for real-world problems.
- **Software Development Lifecycle:** Understand and apply principles of software development, including requirements gathering, design, implementation, testing, and deployment.
- **Time Management:** Effectively manage time and prioritize tasks to meet project deadlines.
- **Task Allocation:** Work collaboratively with team members to allocate tasks, ensuring a balanced workload.
- **Agile Methodologies:** Experience working within agile methodologies, such as Scrum or Kanban, to iteratively develop and deliver software.
- **Team Collaboration:** Collaborate effectively with team members, including communication, conflict resolution, and decision-making.
- **Client Interaction:** Interact with "clients" or stakeholders to gather requirements, provide updates, and receive feedback, where a team are working with a specified company based project.
- **Code Readability:** Write clean, readable, and maintainable code.
- **Version Control:** Use version control systems (e.g., Git) effectively to manage codebase changes.
- **Code Reviews:** Participate in and conduct code reviews to improve code quality.
- **Unit Testing:** Implement unit tests to ensure the functionality of code.
- **Debugging:** Effectively debug and troubleshoot issues in the code.
- **Code Documentation:** Provide documentation for code, including comments and README files.
- **Project Documentation:** Document the overall project, including design decisions, architecture, and setup instructions.
- **Research Skills:** Demonstrate the ability to independently research and learn new technologies or concepts.
- **Adaptability:** Adapt to changing project requirements and technologies during the development process.



Tim Smith, Software Development Course Director

"We know that this can be the most intense part of the course, but our focus is on ensuring that students get an excellent grasp of the concepts, whilst achieving their own goals. We believe that it's about the journey and the outcomes, which is why we pair our instructors industry knowledge, with education excellence."

"My goal, and the goal of our delivery team is to make sure you have the tools to succeed in industry and remember your time with us as a positive and exciting experience."

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be a **young**
smart **hipster**
with the very latest
macbook-pro
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