



You're not made to write code,
You're made to rewrite the future.

CERTIFICATE PROGRAM IN FULL STACK DEVELOPMENT WITH CLOUD FOR WEB AND MOBILE

PART-TIME



Placement
Assurance

Hero
vired | A HERO GROUP
COMPANY

THE DEFINITIVE, JOB FOCUSED ROUTE TO LEARNING FULL STACK DEVELOPMENT FOR HOLISTIC WORK GROWTH

Powered by



This program is designed with an industry-first, project-centric approach and equips you with the knowledge of tools and techniques that take you beyond just coding, and gives you the requisite skillsets to build end-to-end applications.

With this program, you open up your possibilities to a future in all segments of web development, making you an asset in one of the fastest growing professional niches in the world.



FULL STACK DEVELOPMENT

THE NO.1 EMERGING EXPERTISE

Forecasts indicate that there are around

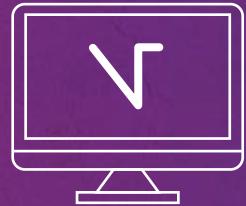
1.4 million

vacancies for Full Stack Web Development



By 2024' job growth for web developers is expected to increase by

27 %

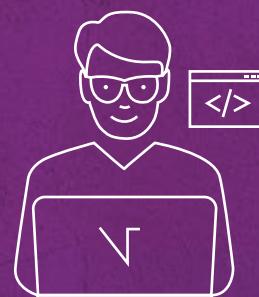


*U.S. Bureau of Labor Statistics



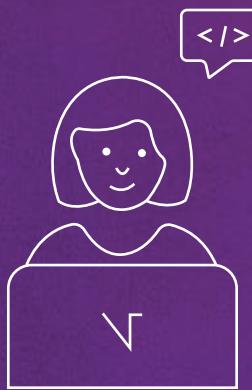
A Tech Lead with 6+ years of experience earns an average salary of

25-40 LPA*
based on experience



The average salary for a Frontend/Backend Developer is

5-12 LPA*
based on experience



The average salary of a Web Developer is

10-20 LPA*
with 3-6 years of work experience



The Full Stack Developer role is the top position to be filled according to

38 %
of hiring managers



CERTIFICATE PROGRAM IN FULL STACK DEVELOPMENT WITH CLOUD FOR WEB AND MOBILE

- India's only online industry-focused, comprehensive program (**528 hours**) that integrates **Full Stack Mobile & Web App Development and Cloud Deployment**
- **70-90%** of the program will be in the form of **live instructor-led classes** with mentors and industry practitioners to guide you through the program journey
- **10 months (including a 3-month capstone and 1-month bootcamp)**, powered by **Codecademy**
- **Deep industry connect** with faculty, mini-projects, internships and a capstone project
- Personal branding sessions and placement assistance with **a minimum of 8-10 guaranteed job opportunities**
- **1:1 career coaching** with **just-in-time** interview preparation
- **Lifetime access to "VRISE", Hero Vired's online placement portal**

Eligibility:

- Graduates from engineering (all streams) computer applications/technology fields (final-year students can apply)
- Other graduates can also join but need to go through a compulsory Bootcamp

Pre-Requisites: Prior coding knowledge preferred but not mandatory or Understanding of basic programming languages (ex. C/C++)
Learners should be willing to dedicate 10-15 hours per week to the program

Note: Students from a non-coding background will have access to free additional foundation classes



This program is accredited by the
National Skill Development Corporation

CURRICULUM*

DURATION: 10 months (including a 3-month capstone and 1-month bootcamp)
Online Live Classes over weekends

1-2 Assignments per Module (1-2 hours of effort per week)
3-4 Mini Projects per Program (2-3 hours of effort per week)
One capstone project (16-24 hours of effort) at the end of the program

MODULE

ABOUT THE MODULE

LEARNING OUTCOMES

Programming Fundamentals - Bootcamp (For Non-Coders)

Duration: 1 Month (Optional)

Bootcamp

Master the basic concepts of frontend Web Development and Python

This module includes interactive web development, which will help lay the foundation for becoming a full-stack developer.

- Create a basic Python console-based application using Loops, Functions, and conditional statements
- Create a personal digital CV/Portfolio website on WordPress by editing HTML and CSS tags

Core Software Development

Duration: 3.5 Months

Introduction To Full Stack Development

Get acquainted with the underlying concepts that make full-stack development work, ranging from client-server architecture and IP addressing to the Agile methodology and VSCode.

- Understand key aspects of full-stack development and how it differs from other programming paradigms
- Analyze the different elements of the client-server relationship
- Identify different tools and technologies used in full-stack development

Git and GitHub

Manage your code and its versions effectively, without letting it take your focus away from the actual task at hand, which is full-stack development, and leverage sharing of code and resources over the web to become a smarter and more resourceful full-stack developer using Git and GitHub. This module arms you with the knowledge of using the most indispensable tools called Git and GitHub to take care of version control and code sharing.

- Use Git and GitHub during web/mobile application development

Java

Understand the fundamentals of JAVA and lay the necessary coding and framing foundations for programming.

Algorithms and Data Structures

Set out on the journey to becoming a master full-stack developer by learning seemingly basic but extremely powerful programming constructs called Algorithms and Data Structures,

- Apply algorithms and data structures to solve real-life problems
- Implement searching and sorting algorithm techniques

*AWS access will be provided for the program duration

*The curriculum is subject to change

CURRICULUM

MODULE

ABOUT THE MODULE

LEARNING OUTCOMES

which set apart a master full-stack developer from the average ones. You can also apply the knowledge of these powerful constructs when using any other programming language, since these are derived from C, the foundational programming language that still lies at the core of all programming languages, either directly or indirectly.

- Analyze linked lists, tree data structure, and hashing techniques
- Use of Heap to sort an array

SQL

Understand, design and structure robust backend databases and operations using SQL

Building Webpages With HTML and CSS

Become familiar with the language of the Web, which is HTML, and the art and craft of adding style to your web pages, which is Cascading Style Sheets or CSS.

- Use HTML to create a basic read-only webpage
- Use HTML to create a web page with a user input field
- Use CSS and HTML to create a webpage
- Use JavaScript to code client-side scripting

Programming With JavaScript

Find out why web development has become synonymous with using JavaScript as a programming language, followed by the basics of JavaScript programming for interactive web development, such as loops, functions, and conditional statements, culminating in the development of a console-based application using JavaScript.

- Use JS Arrays and Objects
- Use JSON, HTML Requests, and AJAX to develop effective web pages
- Use ES6 to develop an effective website

Creating a Dynamic Website Using JS

Reach the next level of front-end development and learn easy styling of web pages using advanced CSS, coupled with JavaScript's powerful Document Object Model (DOM).

- Implementing Advanced CSS concepts
- Execute DOM CSS manipulation and JavaScript
- Execute DOM events and validate forms
- Use Bootstrap to create a webpage
- Use classes
- Implement class methods to define functions in a class
- Use inheritance to organize code in classes and subclasses
- Implement static methods to return values within a class
- Use a debugger to debug a JavaScript Code

Bootstrap

Learn how to create responsive websites and web applications using the open-source front-end development framework of Bootstrap 5.

Assessment - for choosing elective

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CURRICULUM

Elective 1 - MERN stack Duration: 3.5 Months

MODULE

ABOUT THE MODULE

Client Side Programming with React JS

Boost the power of JavaScript for front-end development using the React JS library – the 'R' of MERN– which makes building cool and interactive user interfaces a breeze, taking care of the client-side programming aspect of full-stack development.

Web Server with Node JS

Work on the server-side programming aspect of FSD with Node.js – the 'N' of MERN, and a cross-platform, run-time JavaScript environment for the back-end, which runs on a JavaScript Engine and executes JavaScript code outside a web browser, helping quickly build scalable network applications.

Mongo DB

Harness the power of MongoDB – the 'M' of MERN and the most widely used NoSQL database and the back-end of MERN for FSD, used to store, retrieve and search documents quickly.

Express JS

Top up your Node.js skills with Express JS – the 'E' or MERN, which is a flexible Node.js web application framework with a robust set of features and a minimal interface. Use Express JS to build your web and mobile applications faster and with more ease when compared to using just Node.js for server-side programming.

MERN Graded Project 1: Car Rental Service Application

Develop an application for renting cars with a dynamic frontend in React JS and the Backend in Node JS which will include 3 separate interfaces: a user-facing application; an admin dashboard for managing products, and will include features such as creating profiles, adding cars, booking cars of your choice; and an owner

LEARNING OUTCOMES

- Set up the ReactJS environment
- Use ReactJS environment
- Use React Lifecycle methods
- Use conditional rendering
- Use forms in React
- Use controlled components
- Use Fetch API to make requests to a server
- Apply useState() Hook and useEffect() in React

- Analyze Node.js architecture
- Evaluating synchronous and asynchronous programming

- Evaluate databases
- Use Rows and Columns in SQL Queries
- Perform CRUD operations in MongoDB
- Evaluate MongoDB architecture

- Implement the client and server-side scripting
- Analyze CRUD operations and authentication in Express.js using MongoDB
- Conduct Node.js testing
- Evaluate real-time communication using Socket.io
- Execute Test Driven Deployment (TDD)

- Go through the phases of Full Stack Development
- Define problem statement

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CURRICULUM

MODULE

ABOUT THE MODULE

LEARNING OUTCOMES

profile for the customer who wants to offer their cars for rent for a specific duration.

- Formulate the strategy and devise the approach towards problem-solving
- Create HLDs and LLDs
- Work with teams and understand collaboration through GIT
- Discussion on the system design
- Implement the development process
- Map the frontend to the backend
- Provide a project Walkthrough
- Discuss project-related doubts
- Deploy a complete full-stack application

Elective 2 - Springboot

Duration: 3.5 Months

Backend with Core JAVA

Add the application layer to the learnings you had from the previous Modules with core JAVA for the backend, deep dive into the OOP concepts and standard libraries such as those used for file handling, string libraries, and network libraries. The Module also covers the Gradle and Maven build tools.

Java Programming basic constructs

- OOP in Java
- Generics
- Functional Programming Java
- Standard libraries like (file handling, string libraries and network libraries)
- Gradle/Maven

Database Architecture and Advanced Operations using SQL

To handle the backend operations, a full-stack developer must know how to manage databases using the basic Create-Read-Update-Delete operations, apart from understanding the basic database architecture. This Module covers the fundamentals of SQL database and CRUD operations, with a specific focus on querying data in SQL.

Fundamentals of SQL Database

- CRUD operations
- Querying on SQL

Angular Fundamentals and TypeScript

Get yourself acquainted with an introduction to the Angular framework and then delve into the OOP concepts in TypeScripts. This Module covers the fundamentals and generics of TypeScript before moving on to core Angular concepts, followed by event handling and routing.

.Build a front-end application using the Angular Framework and TypeScript. Control what happens when an event is triggered in Angular by handling events. Create a single-page application with multiple views with navigation between them using the Routing feature. Manage dependencies using Node Project Manager. (NPM)

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CURRICULUM

MODULE

ABOUT THE MODULE

LEARNING OUTCOMES

Backend with Spring Boot

In this module, you will be introduced to the Spring Boot framework, which we will be used for implementing a RESTful backend, and with the help of Angular, we will be creating a JavaScript-based frontend.

Implement backend frameworks using Java and Spring Boot frameworks

Java Springboot Project 1

After learners have learnt to implement both front-end and backend using the Angular and Spring boot frameworks respectively, they will put their understanding to the test by working on a project where they will use Angular and Spring boot together to build a Java Spring boot stack application.

Deployment Basics

Duration: 1 Month

Python

Ace your backend skills with Python and its two popular frameworks: Flask, a lightweight framework without external libraries and with minimalist features; and Django, which is a full-stack framework that offers ready-to-use fully-loaded resources and features. Both allow developers to create and scale web apps easily and quickly.

- Use basic syntaxes in Python to write a program
- Use functions and create database connections to access the database
- Implement a framework for Python Microservices
- Implement OOPS, Django and Flask with Python

Authentication and Authorization

Address the security issues and develop secure web applications by mastering the authentication and authorization concepts for full-stack development.

- Evaluate the role of a session and a cookie in authentication and authorization
- Use authentication middleware passport.js
- Analyze the implementation of authentication using OAuth 2.0

MERN Project 2: Online Library Application

Build a MERN stack application using React in the frontend, NodeJS in the backend and MongoDB as the database.

- Go through the phases of Full Stack Development
- Define the problem statement
- Formulate the strategy and devise the approach towards problem-solving
- Create HLDs and LLDs
- Work with teams and understand collaboration through GIT
- Discussion on the system design
- Implement the development process
- Map the frontend to the backend
- Provide a project walkthrough
- Discuss the project-related doubts
- Deploy a complete full-stack application

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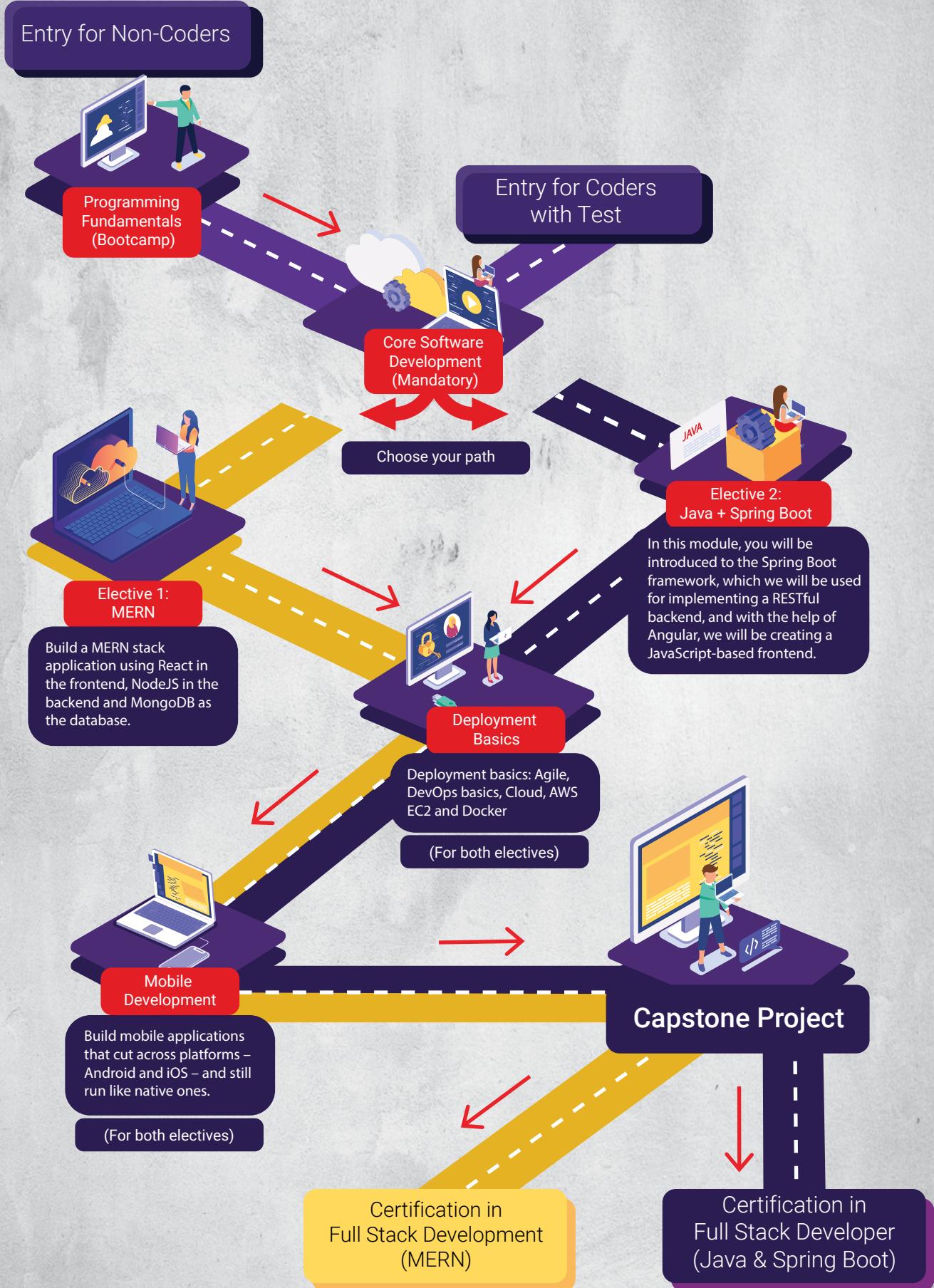
CURRICULUM

MODULE	ABOUT THE MODULE	LEARNING OUTCOMES
Web Security	Arm yourself with the skills and knowledge needed to take on the security attacks your web or mobile application might be faced with in the real world by acing the concepts of web security.	<ul style="list-style-type: none">Analyze high-profile data breaches with SQL injectionAnalyze the advanced web browsing vulnerabilities to develop potential solutions
DevOps And Docker Implementation	Ensure faster development of new web and mobile applications and easier maintenance of the existing ones by learning DevOps practices. Also, use the Docker platform for more streamlined delivery of your web and mobile applications.	<ul style="list-style-type: none">Setup Docker to build, deploy, and manage containerized applicationsUse Jenkins to build, test, and deploy software productsImplement a build and a build pipeline with JenkinsExecute continuous build and deployment using Jenkins and Docker
Agile and Continuous Development	Manage your software development lifecycle better, build and deploy code more efficiently by using the Agile methodology and practices for continuous development.	<ul style="list-style-type: none">Analyze Agile principles and methodologiesUsing SCRUM and Agile to manage work in a collaborative environmentImplement a project with JIRA
Cloud Deployments	Deploy your application on the Cloud to allow access to it from anywhere and using any device.	<ul style="list-style-type: none">Set up EC2 ServersExecute live EC2 deployment with S3 and RDS
Mobile Development Duration: 1 Month		
Mobile Applications with React Native (Optional)	Build mobile applications that cut across platforms – Android and iOS – and still run like native ones! Use the JavaScript-based React Native to build feature-loaded hybrid mobile applications with ease.	<ul style="list-style-type: none">Evaluate the components of mobile architectureAnalyze how to create native applicationsUse mobile services in applicationsCreate basic React Native applicationsDeploy authentication and authorizationUtilize rapid prototyping techniques to design and develop mobile interfacesProgram mobile applications for the android operating systemImplement cloud-based java microservices to design a mobile application
Mobile Development with Flutter	Add another tool to your repertoire for native mobile app development by mastering Flutter – the free and open-source framework from Google that uses DART programming language to build hybrid mobile apps.	<ul style="list-style-type: none">Use Flutter to develop a cross-platform mobile application
Capstone Project		

*AWS access will be provided for the program duration

*The curriculum is subject to change

LEARNER JOURNEY



SAMPLE INDUSTRY PROJECTS



Car Rental Service Application

Develop a car rental application that allows a user to rent a car for a specified amount of time with 3 types of accounts, owner, user and admin. A user/customer can rent a car for a specific duration that will range from one day to one year. Price will be according to the duration and the model of the car. The price will be set by the owner.



Referral App Development

Develop an android application for first-line contact points in the journey of Home Construction/Home Improvement and collect the first-hand information of the tentative customers seeking credit facility for the same.



Online Therapy and Consultation Website

Build an application to allow patients to connect with therapists virtually via messaging and video calls, and also help to find the right therapist based on patient reviews and star ratings.



E-Commerce Website

Create a web application for E-Commerce Website in NodeJS and ExpressJS and Frontend using React framework.



LMS (Learning Management System)

Work on developing an application that allows instructors and learners to seamlessly complete the learning process online just as easily as they can do in the classroom.



Food Delivery Website

Build an application to form a bridge between restaurants and consumers; it should also allow customers to browse various restaurants and cafes to order their meals. In addition, the technology platform should also allow restaurant owners to list their restaurants on the website and add details such as an addresses, menus, photos etc.

KEY FACULTY PROFILES

Sanjoy Paul



- MBA - Business Administration & Management, General

Experience

Co-Founder & CTO
myELSA

Senior Associate
Cognizant

Senior Associate Consultant
Infosys

Shakul Malik



- Master's in Computer Science

Experience

Freelance Consultant
Primed Talent

Senior IT Trainer
Web-Forte Technologies

Devraj Sanyal



- BE in Computer Systems Technology
- Diploma in Advanced Computing

Experience

Founder Partner
Bdec.in

CTO
dōnō consulting

Vice President
Goldman Sachs

KEY FACULTY PROFILES



Subhashis Majumder

- PhD in Computer Science & Engineering
- M.Tech in Computer Science

Experience

Professor & HOD
**Heritage Institute
of Technology**

Professor &
Course Director
IIIT

General Manager,
Technical
Astralsys Software



Roopali Salwan

- M.Tech in Computer Science
- MSC in Computer Science

Experience

Technical Trainer
LEARNXT

Assistant Professor
Amity University

LEARNING HOURS



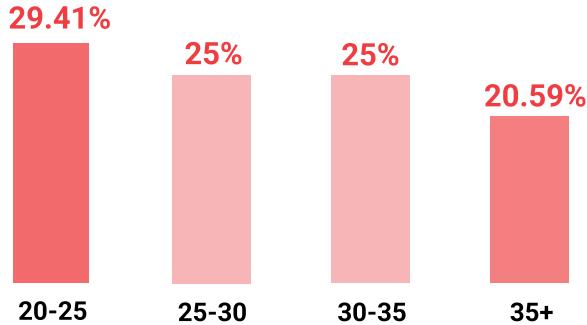
TOTAL COURSE DURATION	Self-Paced	Assignments, Mini Projects & Capstone	Live Online (Faculty-Led)	Career Service
10 Months (includes 3-month capstone)	18 Hours	204 Hours	234 Hours	72 Hours

TOTAL EFFORT
(Learning Hours + Self Work)

528 Hours

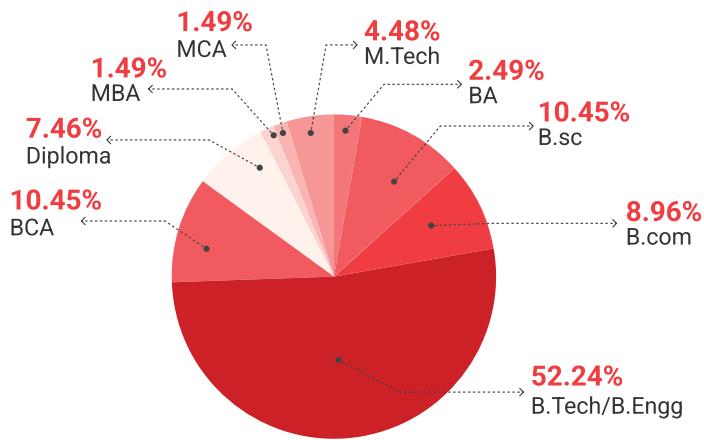
TOTAL WEEKLY EFFORT **12-15** Hours

BATCH DEMOGRAPHICS

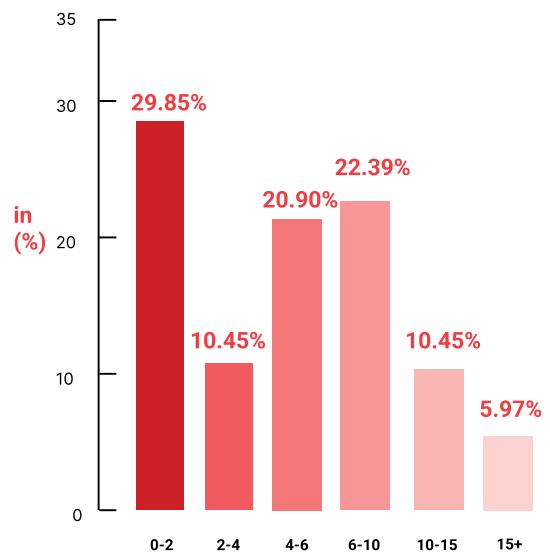


Average work experience
of learners (years)
~ 6 years

👤 Age range



Academic background classification



💼 Work experience

Your Learner Success Story



Industry Faculty

Learners will have the opportunity to interact with domain experts from across industries through regular faculty lectures, industry sessions and networking opportunities



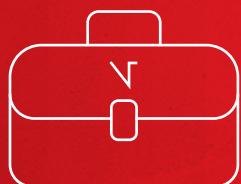
Integrated Mini-Projects

All learners will work on multiple domain-focused real world projects that will be spread out over the span of the program with expert mentoring and guidance sessions



Internship or Industry Project

Every learner will have the opportunity to gain industry experience with specialisation-focused long-term projects of 3 months with a personal assigned mentor and an industry guide



Personalized Career Services

Each learner will work with an assigned career specialist from the learner success team to build out their personal and professional brand, prepare and work on their presentation, interviewing and communication skills



Post Program Outcomes

On completion of this program, you will be eligible for the following roles based on your work experience - **Senior Web Developer, Full Stack Development, MERN Stack Developer, Tech Lead, and UI/UX Developer.** This program comes with the Hero Vired placement assurance.*



CERTIFICATION

On the successful completion of this program, you will be eligible for:

Hero Vired Certificate powered by Codecademy



*Certificates are indicative and are subject to change

ABOUT



Since 2011, Codecademy has empowered over 45 million people in 190 countries to unlock their personal and professional potential through coding. To date, Codecademy has raised \$42.5 million to make its vision of providing an accessible, flexible, and engaging online education a reality. Codecademy also works with businesses like Facebook and IBM to help teams expand their skills and increase employees' confidence. Codecademy has partnered with governments including the USA, UK, Brazil, Argentina, and others, and has also worked with companies like Google and Amazon to create curriculum.

WHY VIRED?

Hero Vired is a premium learning experience, offering industry relevant programs and world class partnerships, to create the change makers of tomorrow.

With a goal to make learning a continuous endeavour, Vired offers a holistic experience that is applied, real-time and engaging.

At Hero Vired, we believe everyone is made for big things. With the experience, knowledge and expertise of the Hero Group, Hero Vired is on a mission to change the way we learn.



1 VIL – Vired Integrated Learning

Comprehensive professional development through measurable transformation

2 VIR - Vired Industry Ready

'Industry relevant focus'- from the industry, of the industry, for the industry

3 I Vired – Vired Personalized Training

Personalized & high- engagement learning experience

4 Vired Connect

Premium access to international learning experiences

5 Vired Globally

Recognized certification from the world's premium institutions

OUR PARTNERS



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Bazaar

trulymadly

Kale Logistics
Technology that Transforms

BharatPe

CREDENC
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MAERSK

WECP

Dare2
Compete

Lenden^{club}

ROCKMAN

Hero

HeroFinCorp.

TESSOLVE
A Hero Electronix Venture

HERO
FUTURE
ENERGIES

Hero
Electronix

THE HERO GROUP IN EDUCATION

The Hero Group has made significant contributions in the field of K12, medical education and higher education.

IN PRIMARY AND HIGHER SECONDARY EDUCATION



Raman Munjal
Vidya Mandir



BCM Chain
of Schools



Green Meadows
School

IN HIGHER EDUCATION



ISB Founding
Members



BML Munjal
University



Dayanand Medical
College & Hospital

THE HERO STORY

The Hero Group is one of the **leading business conglomerates in the world**.

The company saw its humble beginning in 1956 when the four Munjal brothers migrated to Ludhiana from Kamalia (now in Pakistan). As first-generation entrepreneurs, they started out by manufacturing bicycle components and then rapidly expanding the business. From there, they continued their growth story by diversifying and deepening their expertise across domains.

Today, the **US \$5 billion diversified Hero Group** is a conglomerate of Indian companies **with primary interests and operations in automotive manufacturing, financing, renewable energy, electronics and education**.



#getvired

Want more information on this program?
Reach us at **1800 309 3939** | Visit us at **www.herovired.com**