

College Program — Industry-Ready Developer (58 Hours)

Program Philosophy

VES delivers this program **on college premises** as a practical industry-readiness layer on top of the existing academic curriculum. We assume students already have:

- OOP fundamentals (from college coursework)
- Basic programming in at least one language
- Introductory SQL/database knowledge
- Problem-solving and logical thinking

We **don't repeat** what colleges teach. We add what companies expect on Day 1 — production workflows, real frameworks, AI tools, and team-based project experience.

Three Tracks

Each college picks **one track** based on their department's preference and student background.

Track	Backend	Frontend	Database	AI Tools	Agile + Project	Total
Track 1	Java (Spring Boot)	Angular 20	PostgreSQL	15 hrs	14 hrs	58 hrs
Track 2	Python (FastAPI)	React 19	PostgreSQL	15 hrs	14 hrs	58 hrs
Track 3	.NET 10 (ASP.NET Core)	Angular 20	PostgreSQL	15 hrs	14 hrs	58 hrs

Hour Breakdown (All Tracks)

Module	Hours	Description
Module 1: Dev Setup & Git	2	Environment, Git workflows, GitHub
Module 2: Backend Language & Framework	13	REST APIs, basic security, services, testing
Module 3: Database	3	PostgreSQL deep dive, advanced ORM patterns
Module 4: Frontend Framework	9	Components, routing, state, API integration
Module 5: Authentication & Authorization	2	JWT, role-based access, protecting APIs
Module 6: AI Tools for Developers	15	Copilot, ChatGPT, prompt eng, OpenAI APIs, RAG, MCP
Module 7: Agile & Scrum Workshop	2	Scrum, user stories, sprint planning, GitHub Projects
Module 8: Capstone Project Sprint	12	Full-stack app in Agile sprints with AI features

Total	58	
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Core teaching: 29 hours (Modules 1-5) — track-specific

AI module: 15 hours (Module 6) — shared across all tracks

Agile: 2 hours (Module 7) — shared across all tracks

Project: 12 hours (Module 8) — Agile sprints, PR workflow, team demos

Delivery Model

Flexible Scheduling

- Colleges decide the schedule — weekdays, weekends, intensive blocks — whatever works
- Sessions can run **1 to 3 hours** depending on the college's availability and student stamina
- **Maximum 3 hours per day** — beyond that, focus drops and retention suffers
- No fixed session length — VES adapts to whatever time slots the college offers
- Total: 58 hours delivered across however many sessions the college prefers

Example Schedules

Format	Hours/Week	Duration
2 days/week, 2 hrs/day	4 hrs/week	~14 weeks
3 days/week, 2 hrs/day	6 hrs/week	~9 weeks
Weekends, 3 hrs/day (Sat + Sun)	6 hrs/week	~9 weeks
6 days/week, 2 hrs/day	12 hrs/week	~5 weeks
Daily, 3 hrs/day	15 hrs/week	~4 weeks (intensive)

Recommended Sequence

Modules are designed to be delivered in order (1 → 2 → 3 → 4 → 5 → 6 → 7 → 8), but the **AI module (Module 6)** can be interleaved with core modules. Recommended interleaving:

- Module 1: Dev Setup & Git (2 hrs)
- Module 6, Session 1: AI Landscape + Copilot Setup (2 hrs) — *so students use Copilot from Session 3 onwards*
- Module 2: Backend (11 hrs) — *Copilot active during all coding*
- Module 3: Database (3 hrs)
- Module 6, Sessions 2-4: Copilot Advanced + ChatGPT + Prompt Eng (6 hrs)
- Module 4: Frontend (9 hrs) — *AI tools active*
- Module 5: Authentication & Authorization (2 hrs) — *full auth with both backend and frontend ready*
- Module 6, Sessions 5-8: OpenAI APIs + RAG + Agents + Ethics (7 hrs)
- Module 7: Agile & Scrum Workshop (2 hrs) — *right before project starts*
- Module 8: Capstone Project Sprint (12 hrs) — *real Agile sprints with standups, PRs, reviews*

This way AI tools are **used throughout** the program, not just taught in isolation.

What Students Walk Away With

- A **deployed full-stack application** (backend + frontend + database)
 - A **clean GitHub repository** with proper README, commit history, and documentation
 - A **professional GitHub profile** — bio, pinned repos, contribution graph, portfolio-ready
 - An **ATS-qualified resume** — formatted for applicant tracking systems, with quantifiable project experience
 - An **updated Naukri profile** — headline, skills, project descriptions optimized for recruiter searches
 - Hands-on experience with **AI development tools** (Copilot, ChatGPT, OpenAI APIs)
 - Real **Agile/Scrum experience** — sprint planning, daily standups, retrospectives
 - Understanding of **production workflows** — feature branches, pull requests, code reviews
 - Solid **PostgreSQL** database skills — schema design, queries, indexing
 - A **demo-ready project** they can showcase in interviews
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Prerequisites for Students

- Completed 3rd year / Final year of BE/BTech/BCA/MCA
 - Basic programming knowledge (any language — C, C++, Java, Python)
 - Understanding of OOP concepts (classes, objects, inheritance, polymorphism)
 - Basic SQL knowledge (SELECT, INSERT, joins)
 - Laptop with minimum 8GB RAM, stable internet
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What VES Provides

- Experienced trainers (working developers from V Software Consulting)
- Pre-configured development environment setup guides
- All course materials, exercises, and project templates
- ChatGPT/Claude access guidance
- Colleges are encouraged to provide GitHub Copilot licenses for students (\$19/user/month) for maximum learning impact

Optional Add-ons (Additional Cost)

- GitHub portfolio review and optimization session
 - ATS resume workshop — formatting resumes for applicant tracking systems
 - Naukri profile optimization — headlines, skills, project descriptions for recruiter visibility
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Curriculum Documents

- [Track 1: Java + Angular](TRACK-1-JAVA-ANGULAR.md)
- [Track 2: Python + React](TRACK-2-PYTHON-REACT.md)
- [Track 3: .NET + Angular](TRACK-3-DOTNET-ANGULAR.md)
- [AI Tools Module (Shared)](AI-TOOLS-MODULE.md)
- [Agile & Scrum Workshop (Shared)](CAPSTONE-PROJECT.md#module-7-agile--scrum-workshop-2-hours)
- [Capstone Project Sprint (Shared)](CAPSTONE-PROJECT.md)