Software Development Academy Training Curriculum – Second Semester

Month	Broad Skill	Topics	Objectives	Weekly Focus Areas
Month 1	Organization's Core Business	Business understanding: • General Insurance • Life Insurance • Pensions	Build a strong foundation in programming, tools, and TypeScript basics for backend development.	Wk. 1: • Presentations on business lines by Subject Matter Experts. • JavaScript fundamentals (data types, variables, loops, conditionals). Wk. 2: TypeScript basics (types, interfaces, and type annotations) Wk. 3: TypeScript modules, functions, and type inference Wk. 4: Command-line usage and version control with Git and GitHub.
Month 2	NestJS Development	• NestJS basics • TypeScript in backend • Controllers • Providers • Middleware • Database Integration	To build knowledge of NestJS concepts to enhance API functionality and modularity.	Wk. 1: Setting up NestJS and creating the first API. Wk. 2: Working with controllers and routes. Wk. 3: Providers and dependency injection basics. Wk. 4: Middleware, guards, and validation.
Month 3				Wk. 1: Advanced NestJS concepts (authentication, authorization). Wk. 2: Database integration (MSSQL). Wk. 3: Advanced API design and error handling. Wk. 4: Testing, debugging, and project review.
Month 4	React Native Development/ Introduction to SQL	• Introduction to React Native •	Introduction to Mobile Application Development using React Native. Introduction to SQL	Wk. 1: Setting up React Native, understanding components). Wk. 2: Introduction to SQL and basic commands; Introduction to Python, variables, data types, and simple operations. Wk. 3-4: Data filtering, sorting, and aggregation in SQL; Python for basic data manipulation.
Month 5	Data Science (Advance SQL + Intro to Python)	Advance SQL and Python basics, libraries for data	To provide foundational Python knowledge for data	Wk. 1-2: Views in SQL, Store Procedures in SQL, Functions in SQL,Database normalization

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		analysis (Pandas, NumPy).	manipulation and analysis.	Wk. 3: Advanced queries, subqueries, joins; Introduction to pandas in Python. Wk. 4: Database design practice with SQL and real-world datasets; Data analysis project combining SQL and Python.

One Month Internship Schedule

Week	Objectives	Activities	Expected Outcomes
Week 1	Orientation, Shadowing & Onboarding	- Introduction to the team and tools - Overview of company projects - Setup of development environment - Shadow senior developers on daily tasks (code reviews, meetings)	Students become familiar with the team, tools, and project goals; gain an understanding of the real-world workflow.
Week 2	Hands-on Task with Mentorship	- Assign small tasks (e.g., bug fixing, creating simple features) - Pair programming with senior developers - Begin attending daily stand-ups and retrospectives	Students contribute directly to projects under guidance, reinforce their learning, and experience team-based work.
Week 3	Solo Development on a Medium Task	- Work on a medium-sized task individually (with mentor support) - Focus on best practices for version control and collaboration - Participate in code review for their contributions	Students gain autonomy, apply problem-solving skills, and improve their ability to work independently in a supportive environment.
Week 4	Project Integration, Testing & Reflection	- Integrate feature with the main codebase - Participate in testing and debugging - Feedback session and final presentation of learnings and contributions	Students complete a full cycle from development to integration, gain feedback from senior developers, and enhance presentation and reflection skills.