epam | NAYA College

FDE (Forward Deployed Engineer)

150 Academic Hours



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Course Overview

FDE (forward Deployed Engineer) is designed to prepare professionals for one of the emerging roles at the intersection of business, AI, and technology.

The FDE works closely with business stakeholders and technology teams to identify real organizational challenges, translate them into practical AI solutions, and take those solutions from initial discovery through prototyping, implementation, and deployment.

As organizations increasingly adopt Generative AI, AI Agents, automation, and intelligent workflows, they need professionals who can do more than simply use AI tools. They need people who can understand business processes, identify high-value AI opportunities, define solution requirements, select the appropriate technologies and architecture, and build working AI solutions.

This hands-on program combines **business understanding, solution design, and practical AI implementation skills**. Participants will learn how modern AI solutions work, including LLMs, Knowledge Bases, RAG, AI Agents, tools, MCP, workflows, and multi-agent systems.

Throughout the program, participants will work with technologies such as Microsoft Copilot, Copilot Studio, n8n, EPAM DIAL, Python, APIs, LangGraph, RAG architectures, and AI Agent frameworks.

A key emphasis of the program is **the end-to-end FDE mindset**: working directly with business needs, rapidly translating them into technical solutions, building prototypes and AI applications, and supporting their journey from Discovery and POC through MVP and Production

Target Audience

- Business Analysts and System Analysts
- Product Managers and Project Managers
- Digital Transformation and Innovation professionals
- Technology Consultants and Solution Consultants
- Business and technology professionals involved in AI initiatives
- Professionals responsible for identifying, defining, or implementing AI use cases within organizations
- Technical professionals who want to expand their capabilities toward business-oriented AI solution design

Learning Outcomes

- Identify business processes and challenges that can benefit from AI
- Translate business requirements into practical AI use cases & solution definitions
- Understand the capabilities and limitations of LLMs and Generative AI
- Design AI solutions using Knowledge Bases, RAG, AI Agents, tools, workflows & MCP
- Select the appropriate AI architecture according to the business use case
- Evaluate AI initiatives based on business value, feasibility, cost, ROI, risks, and organizational readiness
- Understand and address common AI risks, limitations, and biases
- Define AI projects across the Discovery, POC, MVP, and Production lifecycle
- Translate discovery findings into structured solution requirements and SOW
- Build AI-powered workflows and solutions using Copilot Studio, n8n, & EPAM DIAL
- Use Python, APIs, JSON, files & structured data as building blocks for AI solutions
- Build practical RAG-based applications and AI Agents
- Work with agent memory, LangGraph, multi-agent systems & MCP-based integrations
- Communicate effectively with business stakeholders, developers, AI engineers, and technology teams throughout an AI project

Course Syllabus

Module 1: AI & Large Language Model Fundamentals

- Key AI terminology and concepts
- Differences between Automation, Machine Learning, Deep Learning, and Generative AI
- Introduction to Large Language Models, their capabilities, and limitations
- Common business and organizational GenAI use cases
- Prompt Engineering principles and hands-on prompt writing

Module 2: Knowledge Bases, RAG, and AI Agents

- Knowledge bases, data ingestion, and information retrieval
- Introduction to RAG and common techniques for improving its performance
- Relational, vector, and graph databases
- Differences between chatbots, tool-enabled assistants, workflows, and AI agents
- Introduction to AI agent architectures, Skills, tools, and MCP
- Overview of common GenAI platforms and frameworks

Module 3: Responsible AI and AI Project Definition

- AI risks, bias, privacy, security, hallucinations, and human oversight
- Identifying, evaluating, and prioritizing AI use cases
- Assessing organizational readiness, costs, feasibility, and ROI
- Understanding the AI project lifecycle: Discovery, POC, MVP, and Production
- Defining project objectives, stakeholders, success metrics, and deliverables
- Discovery-to-SOW workshop, solution presentation, and professional feedback

Module 4: AI and Automation Platforms

- Microsoft Copilot for personal, team, and departmental productivity
- Building customized agents and workflows with Microsoft Copilot Studio
- Developing AI-powered automations and system integrations with n8n
- Creating agents and workflows using EPAM DIAL
- Hands-on development of practical organizational AI solutions

Module 5: Python Programming Fundamentals

- Python syntax, variables, data types, and operators
- Working with strings, collections, and structured records
- Conditional statements, loops, functions, and modules
- Basic error handling and clean-code principles
- Hands-on programming and data-processing exercises

Module 6: Applied Python for AI Solutions

- Working with files, CSV, JSON, and data payloads
- HTTP communication and REST API integration
- Logging, monitoring, and basic troubleshooting
- Object-Oriented Programming for modular AI applications
- Generators, data classes, type hints, and data validation

Module 7: AI Engineering and RAG Development

- Introduction to AI Engineering and LLM-powered application architecture
- Designing and implementing RAG pipelines
- Document ingestion, chunking, embeddings, and vector databases
- Retrieving relevant information and generating grounded responses
- Improving retrieval quality and reducing unsupported answers

Module 8: Advanced Agentic AI Development

- Designing AI agents that use tools, APIs, and organizational knowledge
- Developing multi-step agent workflows with LangGraph
- Implementing short-term and long-term memory
- Building and coordinating multi-agent systems
- Connecting agents to tools and external services through MCP
- Hands-on development of an integrated Agentic AI solution

Why Naya College?

Specialization in Data and AI – Naya College is Israel's leading, most established, and only college specializing in the world of data & AI since 2010.

Leading Instructors – All of Naya College's instructors are experienced managers from Israel's data industry.

Learn technology from a true tech company – Naya College is much more than a college. We live and breathe technology and lead the remote-learning course industry. Throughout the course, you will learn using the most advanced technologies in the field, and the course learning experience is based on practical, real-world experience.

Personal Consultation and Guidance – Not sure which track is right for you? In a personal consultation call, we'll understand your experience, goals, and aspirations, and help you choose the training program that best suits your career path.

Flexible Payment Options – Convenient installment plans with no registration fees, so you can start learning with peace of mind and focus on your success.

Support All the Way to Employment – Career development workshops, interview preparation workshops, job-matching support, and connections to leading companies.

Full Flexibility in Learning – No obligation to attend class. All classes are recorded on Zoom and students can complete the lessons at their own pace.

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So, how do we move forward from here?

Take the first step with a professional program,
personal guidance, and a connection to the world of work.

For any questions, feel free to contact us by phone or email:
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