

ITLEO

Advanced Python course

Online

Intermediate / Advanced

28 lessons, 2 lessons per week

We study the following technologies:



Jenkins



Selenium



Rest



Git



Python



Continuous Integration

More details about the course:

This course is designed for those who already have a solid grasp of basic Python and want to take their professional development to the next level. The program focuses on building efficient, scalable, and structured applications using best development practices.

The course is ideal for developers who want to write production-ready code and be ready to work on complex projects or large companies.

Course program

Block 1: Advanced Python Features

- Working with advanced data structures: deque, defaultdict, Counter
- Generators, iterators, functional programming (map, filter, lambda)
- Decorators: creation, decorator stack, parameterized decorators
- Context managers, with, custom resource managers

Block 2: Object-oriented programming

- Deep into OOP: magic methods, inheritance, encapsulation
- Metaclasses, abstract classes

- SOLID principles in Python
- Design patterns: Singleton, Factory, Strategy, Observer

Block 3: Asynchronous programming

- Introduction to asyncio: event loop, coroutine
- async/await in practice
- Asynchronous request processing, working with aiohttp
- Comparison of synchronous and asynchronous approaches

Block 4: Databases and ORM

- Working with SQLAlchemy: models, sessions, queries
- Alembic: creation and use migrations
- Practice of creating API with database
- Creating relationships between tables, complex queries

Block 5: Testing and DevOps

- Unittest and Pytest: writing unit tests
- Mocks and fixtures
- Validation of code structure, coverage check
- Git, GitHub: teamwork, pull requests
- Introduction to CI/CD (basic)

Block 6: Final project

- Creating an asynchronous web application on Flask or FastAPI
- Integration with database
- Authorization, validation, logging
- Applying patterns, tests
- Review and publishing the project on GitHub

Who is this course suitable for?

- Junior Python developers who want to become Middle
- QA engineers who want to automate complex processes
- Data Science developers who want to write quality code
- Those who want to build complex web services or APIs

What will be the outcome?

- Deep understanding of Python architecture
- Ability to write clean, asynchronous, testable code
- A full-fledged asynchronous web service in your portfolio
- Technical interview preparation
- Experience working with teams using Git

Career prospects

After the course you will be able to apply for the position:

- **Middle Python Developer**
- Average salary in Ukraine: \$2000 – \$3500

This knowledge will be relevant in AI, Web, FinTech, Automation and other areas

Course bonuses

- English for IT professionals
- Technical interview in mock interview format
- HR consultation on resume and interview preparation
- Access to the ITLEO alumni community

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