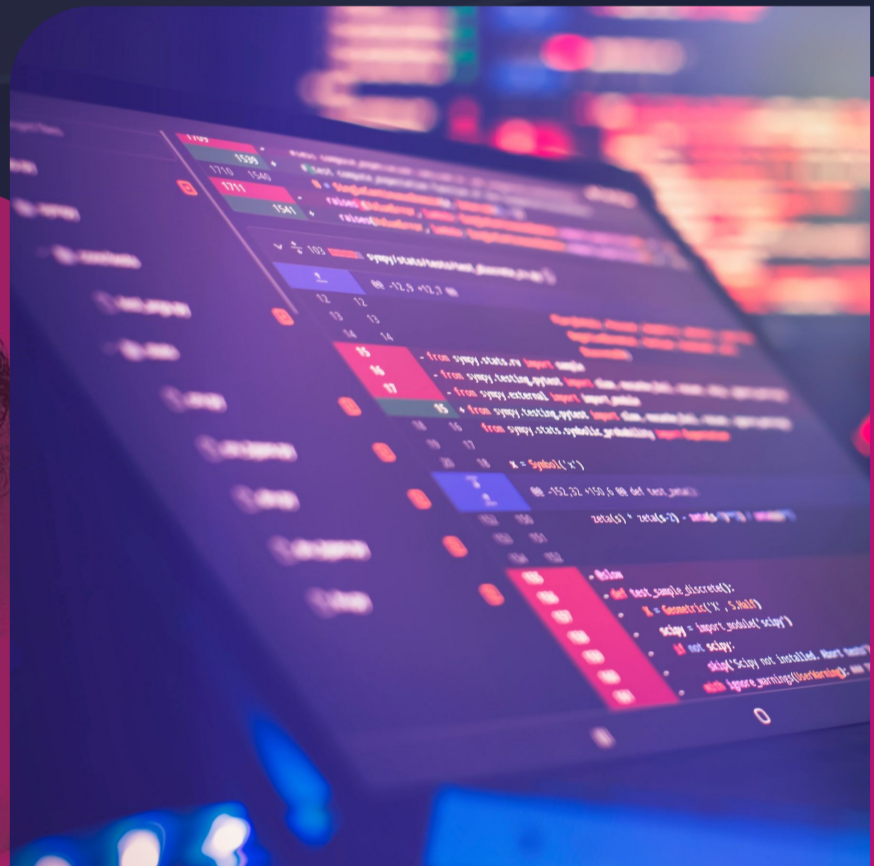


Business Programming

Cutting-edge development skills that drive digital transformation



Develop transformative solutions with essential coding skills

Master key programming concepts, design web and mobile apps, and lead software projects while integrating data science and machine learning. This module offers a deep dive into programming foundations and their application in business. Explore programming paradigms, languages and low-code/no-code development strategies for innovative solutions.

You'll also gain leadership skills in managing software projects, incorporating machine learning, and addressing business challenges through case studies. Analyse how programming drives business success and predict future trends in business development.

Learning objectives

This module equips you with essential programming skills to transform business processes. By the end, you'll understand core concepts and apply them to drive impactful change. Here's what you'll achieve:

Understand and apply programming basics and languages to create innovative solutions for different industries and improve business models.

Design and develop advanced web and mobile apps using low-code/no-code strategies and business analytics to innovate business models.

Show leadership in managing complex software projects, using advanced methods and tools for debugging, testing and version control in business settings.

Incorporate data science and machine learning into business models to predict and solve business challenges with advanced programming techniques.

Evaluate programming case studies to understand their impact on business models and predict future programming trends and challenges.

Criteria — are you eligible?

- **Language proficiency:** Minimum C1 English proficiency, plus 2 years' work or education in an English-speaking environment. IELTS: 6.0; TOEFL PBT: 600; TOEFL CBT: 200; TOEFL iBT: 100
- **Education:** Relevant EQF Level 6 qualification required (eg STEM, economics). Without this you will have an interview and assessment to evaluate certifications, qualifications or professional experience.
**EQF levels explained*
- **Residency:** This EU-funded programme is open to all EU nationals with a passport or valid ID from one of the 27 EU countries.

Business Programming

Empower your career with advanced skills

This module is for professionals, academics, and programming enthusiasts. It equips students with development, business analytics, and digital transformation.

Ideal for IT professionals, analysts, and developers, it enhances your ability to lead complex software projects, integrate data science and machine learning, and prepare for challenging tech roles.

An innovative online learning experience

This module's online format combines live lectures, seminars, flipped classroom techniques, case study analysis, virtual labs and problem-based learning (PBL). Peer reviews and collaboration are integral parts of the experience.

Both formative and summative assessments monitor progress, providing feedback through assignments, projects, and exams. The final written test accounts for 100% of the grade, ensuring mastery of the business programming concepts needed to drive innovation.

Time commitment

- Classroom and demonstrations: 24 hours
- Practical work/tutorials: 24 hours
- Independent learning: 77 hours
- Total: 125 hours

Credit points

- 5 ECTS

Full course content

Subjects covered

Business Programming is a 5 ECTS module that runs for 12 weeks, with five hours of class time each week. Here's a schedule of the topics we'll cover each week:

● Introduction to Programming Concepts

- Basics of programming including algorithms, data structures, and problem-solving techniques.
- Foundation of software development for business applications.

● Programming Paradigms and Languages

- Examination of different programming paradigms (procedural, object-oriented, functional) and languages.
- Discussion on selecting appropriate languages for business model development.

● Business Model Development Using Programming

- Techniques for developing business models through programming.
- Includes custom software solutions, automation, and leveraging data for decision-making.

● Web Development for Business

- Fundamentals of web development focusing on HTML, CSS, and JavaScript.
- Overview of both front-end and back-end development to create web applications for businesses.

● Software Development Methodologies

- Overview of Agile, Scrum, and Waterfall methodologies.
- Importance of project management and best practices in developing business software.

● Introduction to Low-Code and No-Code Platforms

- Exploring low-code and no-code development platforms, highlighting their benefits and business use cases.

● Advanced Low-Code and No-Code Development

- Deep dive into visual development environments and how they enable rapid application development with minimal coding.

● Debugging and Testing Business Applications

- Techniques and tools for debugging and testing.
- Includes unit testing, integration testing, and test-driven development tailored for business applications.

● Version Control and Collaboration

- Importance of version control (e.g., Git) in software development.
- Collaboration tools and techniques for team-based projects.

● Mobile App Development for Business

- Overview of approaches to mobile app development (native, hybrid, cross-platform).
- Tools and frameworks like React Native and Flutter for creating business applications.

● Automating Business Processes through Programming

- Utilizing programming for business process automation.
- Covers APIs, web scraping, and robotic process automation (RPA).

● Case Studies and Future Trends

- Discussion of real-world case studies in business model development through programming.
- Future trends including AI and quantum computing's impact on business.