

Cloud Computing for Business

Unlocking the power of cloud computing in digital transformation



Deepen your knowledge of cloud technologies and applications

The Cloud Computing for Business module offers a comprehensive look at cloud technologies, highlighting their impact, challenges and advantages in digital business transformation. Students will explore the core principles of cloud computing, studying the frameworks and strategies essential for successful implementation.

The module also tackles governance and security concerns, helping students analyse cloud security architectures and deployment options. It covers a broad spectrum of cloud services, including storage, machine learning, computing, analytics, and quantum computing. Students will learn how to assess these services critically and create strategies to leverage them for business transformation.

Learning objectives

This module equips students with the skills to evaluate core cloud computing principles, address security challenges, explore the impact of Fog and Edge Computing, and develop strategies to leverage diverse cloud services for driving digital business transformation.

Master the core principles, frameworks, development methodologies and tools needed for adopting cloud computing solutions that drive and support digital business transformation.

Critically evaluate governance and security challenges in cloud-based systems to identify and assess suitable cloud security architectures and deployment strategies.

Analyse the role and impact of Fog and Edge Computing in relation to cloud computing.

Appraise a wide range of existing and emerging cloud services (storage, machine learning, computing, analytics, quantum computing, etc) and develop strategies to harness these services for digital business transformation.

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.

Cloud Computing for Business

Opening up new digital opportunities

In this module, you will gain a deep understanding of cloud computing principles and technologies, learning how to design, implement, and manage effective cloud strategies tailored to business needs.

By the end of the module, you will be equipped for roles such as cloud architect, cloud security consultant, or digital transformation leader.

Innovative teaching for mastering digital business technologies

The Cloud Computing for Business module prepares future digital leaders to harness scalable and flexible IT resources, driving innovation and improving business efficiency.

Blending live and self-paced learning, the module uses cutting-edge methods such as problem-based learning, gamification, and the flipped classroom model, all led by experienced tutors. Students will explore cloud principles, governance, security, and a variety of services, with AI enhancing their learning journey and enabling business transformation.

Assessment is based entirely on a project (100% of the marks), evaluating your comprehensive, hands-on understanding of the material.

Time commitment

- Classroom and demonstrations: 36 hours
- Practical work/tutorials: 36 hours
- Independent learning: 178 hours
- Total: 250 hours

Credit points

- 10 ECTS

Full course content

Cloud Computing for Business is a 10 ECTS module delivered over 5 hours per week, across 12 weeks. The following schedule outlines the topics covered each week:

● Cloud Computing Introduction

- Foundations of Cloud Computing
- Service Models
- Deployment Models
- Cloud Technologies

● Enterprise Digital Architecture & Digital Transformation

- Enterprise Systems Architecture
- Functional/Non-functional architectural requirements
- Information & Applications
- Opportunities and Challenges
- Business Model Innovation
- Digital Transformation as a staged process
- Business Readiness

● Cloud Strategy for Digital Transformation

- Alignment with Business Goals
- Key Performance Indicators (KPIs)
- Service Level Agreements (SLAs)
- Innovation and Enterprise Architecture on the Cloud
- Performance, Interoperability, Scalability, Availability
- Mobility, Analyticity, Usability

● Cloud Adoption

- Cloud Adoption Frameworks
- Organisational Change Management
- Migration Scenarios
- Hybrid Model
- DevSecOps

● Cloud Security I

- Cloud Security Concepts
- Security for IaaS/PaaS/SaaS
- Identity and Access Management (IAM)

● Cloud Security II

- Intrusion Detection/Incident Response
- Encryption and Key Management Systems (KMS)
- Disaster Recovery and Business Continuity

● Cloud Native

- Cloud Native concepts and Architectural Considerations
- Microservices, Events, Streams, APIs, and Data
- Impact on Development and Deployment
- Impact on Organisational Structures and Processes
- Context-specific Patterns
- Automation and Orchestration

● Capacity Assessment & Optimisation

- Resource Utilisation
- Information Lifecycle Management
- Elasticity
- Economic Considerations

● Scope of Cloud Services

- Cloud Service Offerings
- Data Services
- Big Data Analytics
- AI & ML Services
- IoT Services
- Quantum Computing Services

● Fog & Edge Computing

- Architectural approaches to IoT and Edge Computing
- Fog and Edge Architectures (e.g., OpenFog Reference Architecture)
- Network Function Virtualization (NFV)
- Software Defined Networking (SDN)
- Recommendations from the National Institute of Standards and Technology (NIST)

● FCloud Governance

- Data Protection and Privacy in the Cloud
- Regulatory Compliance and Legal Considerations

● Emerging Topics in Cloud Computing

- State-of-the-art Research
- Contemporary Focus on Cloud Computing