

Cloud & Operations (BCS) (B-UCLL-MBI45J)

6 ECTS  English  First term  Cannot be taken as part of an examination contract

 [Van Nieuwenhove Tiebe](#) (coordinator) | [Van Nieuwenhove Tiebe](#)

POC PBA Toegepaste informatica (Leuven)

Aims

DLR 4: The professional bachelor applied computer science installs, configures, secures, maintains, and supports IT solutions and modifies them as needed so that they continue to meet the changing needs of an organization.

- The student can install and manage complex cluster environments using visual and CLI tools.
- The student can install tools to support the software development process
- The student can implement secret management in cloud environments
- The student can use GitOps methodology to manage cloud environments.
- The student can protect cloud environments against modern threats

Previous knowledge

- Knowledge of creating and using Linux Containers (Docker)
- Experience with CI/CD pipelines
- Basic knowledge of cloud environments (course Cloud Fundamentals, certifications AZ-900 or similar)

Identical courses

This course is identical to the following courses:

MBI74H : Cloud & Operations

Is included in these courses of study

[Courses for Exchange Students - Technology \(Leuven\)](#)

[PBA Applied Computer Science \(Leuven\)](#), 180 ects. 

Activities

6 ects. **Cloud & Operations (BCS)** (B-UCLL-MBI45j) 

6 ECTS  English **Format: Lecture-practical-assignment**  First term

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Content

In this course, we will work with complex cloud environments and Kubernetes clusters. We will learn how to integrate our cloud environment with an existing development process, and what tools can help us do so.

Contents:

- Introduction to Kubernetes
- Advanced kubernetes clusters and their management
- Deployment techniques and CI/CD integration
- Cluster networking, ingress, gateway and service mesh
- GitOps
- Secret management

- Cloud native monitoring
- Infrastructure as Code
- Cloud security

Course material

Presentations, courses, video materials and learning paths are offered through Toledo.

Format: more information

Explanation of the work format used in this course unit is shared on the Toledo course under section "Course information".

Evaluation

Cloud & Operations (BCS) (B-UCLL-M83836)

Type : Continuous assessment without exam during the examination period

Description of evaluation : Project/Product, Report, Process evaluation

Type of questions : Multiple choice, Open questions, Closed questions

Learning material : Course material, Computer

Explanation

Assessment	Grading scale
TOTAL	1-20/20 scale

Total points to be obtained: 20

- 20 points on assignments

Further explanation on the evaluation of this course unit is shared on the Toledo course under section "About the evaluation"

Information about retaking exams

Total points to be obtained: 20

- 20 points on assignments

Further explanation on the evaluation of this course unit is shared on the Toledo course under section "About the evaluation"

🕒 Required in stage 📅 This year 👤 Taught by	🕒 Optional in stage 📅 Next year 🗣️ Language of instruction	📅 First term 📅 Alternating years 🕒 Duration	📅 Second term 🌐 External	🔄 Both terms 📋 Prerequisites
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