

# MASTER OF SCIENCE IN BIOTECHNOLOGY AND CHEMICAL ENGINEERING

1. 1 <sup>ST</sup> SEMESTER	2. 2 <sup>ND</sup> SEMESTER	3. 3 <sup>RD</sup> SEMESTER	4. 4 <sup>TH</sup> SEMESTER
Compulsory courses	Compulsory courses	Elective Courses	Thesis
		Elective Courses	
Compulsory courses	Innovation and entrepreneurship	Elective Courses	
Specialised study package 1	Specialised study package 2	Elective Courses	
		Elective Courses	
		Elective Courses	
30 ECTS	30 ECTS	30 ECTS	30 ECTS

## COMPULSORY COURSES CHEMISTRY

### SPRING

Modelling of Biological and Chemical Processes 10 ECTS  
 Innovation and Entrepreneurship 5 ECTS

### FALL

Sensors and Process Control 10 ECTS  
 Transport Phenomena 5 ECTS

## COMPULSORY COURSES BIOTECHNOLOGY

### SPRING

Modelling of Biological and Chemical Processes 10 ECTS  
 Innovation and Entrepreneurship 5 ECTS

### FALL

Protein and Carbohydrate Biotechnology 10 ECTS  
 Lipid Biotechnology 5 ECTS

## SPECIALISED STUDY PACKAGES

Choose two of the specialised study packages.

### SPRING:

#### Plastic Materials

Advanced Polymer and Nanomaterials 10 ECTS  
 Plastic Engineering 5 ECTS

#### Biorefining Technology

Integrated Biorefining Technologies 10 ECTS  
 Experimental Biorefining 5 ECTS

#### Medical Biotechnology

Immunological Biotechnology 10 ECTS  
 Biomolecular Interactions 5 ECTS

#### Chemical Processing

Modern Chemical Process Technologies 10 ECTS  
 Platform Chemicals and Synthesis in Continuous Flow 5 ECTS

### FALL:

#### Process Technology

Sensors and Process Control 10 ECTS  
 Transport Phenomena 5 ECTS

#### Energy and Storage

Membrane Technology and Batteries 10 ECTS  
 Power to Gas 5 ECTS

#### Environmental Technology

Chemical Environmental Technologies 10 ECTS  
 Biological Environmental Technologies 5 ECTS

#### Biomaterial Engineering

Biofabrication 10 ECTS  
 Tissue Engineering 5 ECTS

#### Applied Lipid and Protein Biotechnology

Applied Protein Biotechnology 10 ECTS  
 Applied Lipid Biotechnology 5 ECTS

#### Biomacromolecules

Protein and Carbohydrate Biotechnology 10 ECTS  
 Lipid Biotechnology 5 ECTS

## ELECTIVE COURSES

Choose courses from the specialised study packages or other courses at the Department of Engineering, and the broader Faculty of Science approved by the study program manager. AU Course Catalogue: [kursuskatalog.au.dk/en/](https://kursuskatalog.au.dk/en/)