Nature-Inspired Materials Study Programme

Rhine-Waal University of Applied Sciences | Faculty Technology & Bionics 2025

Specialisation
BIOCHEMISTRY

BASIC SEMESTERS

1

- Mathematics 1
- Chemistry of Materials
- Physics and Error Statistics
- Fundamentals of Project Management
- Information Competence and Scientific Working
- Fundamentals of Business and Management

2

- Mathematics 2
- Organic Chemistry
- Programming for Biomaterials
- Metallic Materials and Testing
- Materials Analysis

3

- Non-Metallic Materials
- Chemistry of Biopolymers
- Biochemistry
- Physical Chemistry
- Personal and Social Competences

SPECIALISATION SEMESTERS | BIOCHEMISTRY

4

- FEM and Materials Simulation
- Corrosion and Surface Chemistry
- Materials Technology
- Cell Biology and Microbiology
- Biotechnology and Biodegradable Materials

5

- Sustainability, Quality and Business Process Management
- Biocompatible Materials
- Recycling and Ecology of Materials
- Supramolecular Chemistry and Materials
- Smart Functional Materials

FINAL SEMESTERS

6

- Group Project
- Elective 1
- Elective 2
- Internship / Semester abroad

7

- Internship / Semester abroad
- Thesis
- Colloquium

Degree:

B.Sc. Nature-Inspired Materials

Nature-Inspired Materials Study Programme

Rhine-Waal University of Applied Sciences | Faculty Technology & Bionics 2025

Specialisation
MATERIAL
TECHNOLOGY

BASIC SEMESTERS

1

- Mathematics 1
- Chemistry of Materials
- Physics and Error Statistics
- Fundamentals of Project Management
- Information Competence and Scientific Working
- Fundamentals of Business and Management

2

- Mathematics 2
- Organic Chemistry
- Programming for Biomaterials
- Metallic Materials and Testing
- Materials Analysis

3

- Non-Metallic Materials
- Chemistry of Biopolymers
- Biochemistry
- Physical Chemistry
- Personal and Social Competences

SPECIALISATION SEMESTERS | MATERIAL TECHNOLOGY

4

- FEM and Materials Simulation
- Corrosion and Surface Chemistry
- Materials Technology
- Cell Biology and Microbiology
- Manufacturing Technology and Factory Equipment

5

- Sustainability, Quality and Business Process Management
- Biocompatible Materials
- Recycling and Ecology of Materials
- Material Testing and Failure Analysis
- Inorganic and Composite Materials

FINAL SEMESTERS

6

- Group Project
- Elective 1
- Elective 2
- Internship / Semester abroad »»

7

- »» Internship / Semester abroad
- Thesis
- Colloquium

Degree:

B.Sc. Nature-Inspired Materials

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Specialisation MANAGEMENT

BASIC SEMESTERS

1	Mathematics 1	Chemistry of Materials	Physics and Error Statistics	Fundamentals of Project Management	Information Competence and Scientific Working	Fundamentals of Business and Management
2	Mathematics 2	Organic Chemistry	Programming for Biomaterials	Metallic Materials and Testing	Materials Analysis	
3	Non-Metallic Materials	Chemistry of Biopolymers	Biochemistry	Physical Chemistry	Personal and Social Competences	

SPECIALISATION SEMESTERS | MANAGEMENT

4	FEM and Materials Simulation	Corrosion and Surface Chemistry	Materials Technology	Cell Biology and Microbiology	Accounting
5	Sustainability, Quality and Business Process Management	Biocompatible Materials	Recycling and Ecology of Materials	General Management	Technology and Innovation Management

FINAL SEMESTERS

6	Group Project	Elective 1	Elective 2	Internship / Semester abroad	
7	Internship / Semester abroad	Thesis	Colloquium		

Degree:

B.Sc. Nature-Inspired Materials