

Synthetic Biology (M.Sc.) - Effective 01 October 2023

The degree programme consists of 120 Credit Points (CP) in total:

Language of Tuition:
ENGLISH
certificates required

Mandatory Subject Area: 70 CP ■
- Including Research Internship: 15 CP ■
Elective Subject Area: 15 CP ■
Interdisciplinary Elective Area: 5 CP ■
Research/Thesis: 30 CP ■

The following **module overview** is an abbreviated, easy-to-read version of the **official course schedule** in the examination regulations, to be found in the Satzungsbeilagen of TU Darmstadt:

1. Semester	2. Semester	3. Semester	4. Semester
Basics in Synthetic Biology (15 CP)	DNA-focused Synthetic Biology (6 CP)	RNA Synthetic Biology (6 CP)	Master Thesis and Oral Presentation (27+3 CP)
Intercultural Skills and Project Management (5 CP)	Advanced Design Project (6 CP)	Applied Computational Modeling and Analysis (6 CP)	
Current Synthetic Biology (5 CP)	Interdisciplinary Courses (General Catalogue of TU Darmstadt or Intercultural and Project Mentoring) (5 CP)	Research Internship (15 CP)	
Science Communication and Bioethic/Biosecurity (6 CP)	Elective Area (15 CP) min. 1 module from Catalogue Biology* and min. 1 module from Catalogue Engineering** (3-15 CP each)		

* Catalogue Biology:
Introduction into Immunology, Immunotherapies against Cancers, Plant Biotechnology, RNA Structure and Function, Synthetic Protein Sciences, Applied Immunology, Biomolecular Design, Immuno Pathology, Clinical Immunology, Constraint Logic Programming in Biotechnological/Biomolecular Engineering, etc.

** Catalogue Engineering:
Biofabrication and 3D-Bioprinting, Biomaterials and Tissue Engineering, Tutorial Application and Characterization of Biomaterials, Tutorial 3D-Bioprinting Technology and its Applications, Lab-on-Chip Systems, Bioinformatics II, Signal Detection and Parameter Estimation, etc.

Study Programmes

www.tu-darmstadt.de/studieren

Course Schedule

www.tucan.tu-darmstadt.de

Application and Admission for international students
(International Office)

www.tu-darmstadt.de/international

Zentrale Studienberatung und -orientierung ZSB
(Central Student Advisory and Orientation Office)

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Synthetic Biology Master of Science



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Brief Description

Synthetic biology uses an engineering approach to endow biological cells with new molecular functions. The English-taught master's degree program of Synthetic Biology incorporates current findings in molecular biology as well as engineering and materials science. It is the first degree program that directly address the interdisciplinary approach of synthetic biology and optimally prepares students for this exciting new research and professional field.

www.bio.tu-darmstadt.de/synbio

Admission

For information on application deadlines please refer to www.tu-darmstadt.de/international