Module title
Basics and Trends in the Biotechnologies / Biosciences (not für students of Bioscientific curricula)

Abbreviation
07-ASQ-GTB-182-m01

Module coordinator
holder of the Chair of Biotechnology

Module offered by
Faculty of Biology

ECTS
3

Method of grading
Only after succ. compl. of module(s)

Method of grading
(not) successfully completed

Duration
1 semester

Module level
undergraduate

Other prerequisites
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Contents
This module (lecture and seminar) will provide students with an overview of instrument-based methods in biotechnology and biomedicine and the underlying physical principles. It will discuss modern methods for the analysis of biological matter on the molecular and cellular level. These methods include light microscopy, fluorescence spectroscopy, electron microscopy, atomic force microscopy, flow cytometry and microfluidics.

Intended learning outcomes
Students will gain an overview of key methods in biotechnology and their respective advantages and disadvantages. They will learn to decide what method is most suitable for addressing a particular issue.

Courses
(type, number of weekly contact hours, language — if other than German)
S (2)

Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
presentation (20 to 30 minutes)
Language of assessment: German and/or English

Allocation of places
min. 4, max. 20 places (lot)

Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module appears in
Bachelor' degree (1 major) Biology (2011)
Bachelor' degree (1 major) Biology (2013)
Bachelor' degree (1 major) Chemistry (2010)
Bachelor' degree (1 major) Chemistry (2009)
Bachelor' degree (1 major) Geography (2010)
Bachelor' degree (1 major) Computer Science (2014)
Bachelor' degree (1 major) Food Chemistry (2009)
Bachelor' degree (1 major) Mathematics (2014)
Bachelor' degree (1 major) Mathematics (2013)
Bachelor' degree (1 major) Physics (2012)
Bachelor' degree (1 major) Psychology (2010)
Bachelor' degree (1 major) Business Management and Economics (2013)
Bachelor' degree (1 major) Business Management and Economics (2010)
Bachelor' degree (1 major) Economathematics (2012)
Bachelor' degree (1 major) Economathematics (2008)
Bachelor' degree (1 major) Business Information Systems (2014)
Bachelor' degree (1 major) Indology/South Asian Studies (2013)
Bachelor' degree (1 major) Human-Computer Systems (2010)
Bachelor’s degree (1 major) Computational Mathematics (2014)
Bachelor’s degree (1 major) Aerospace Computer Science (2014)
Bachelor’s degree (1 major) Media Communication (2012)
Bachelor’s degree (1 major) Political and Social Studies (2011)
Bachelor’s degree (1 major) Romance Languages (French/Spanish) (2013)
Bachelor’s degree (1 major) Functional Materials (2012)
Bachelor’s degree (1 major, 1 minor) Pedagogy (2011)
Bachelor’s degree (1 major, 1 minor) Pedagogy (2009)
Bachelor’s degree (1 major, 1 minor) Pedagogy (2013)
Bachelor’s degree (1 major, 1 minor) French Studies (2013)
Bachelor’s degree (1 major, 1 minor) History (2010)
Bachelor’s degree (1 major, 1 minor) History of Medieval and Modern Art (2013)
Bachelor’s degree (1 major, 1 minor) Philosophy (2010)
Bachelor’s degree (1 major, 1 minor) Philosophy (2013)
Bachelor’s degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2012)
Bachelor’s degree (1 major, 1 minor) Spanish Studies (2010)
Bachelor’s degree (1 major, 1 minor) Music Education (2011)
Bachelor’s degree (1 major, 1 minor) Philosophy and Religion (2014)
Bachelor’s degree (1 major, 1 minor) Geography (Focus Physical Geography) (2010)
Bachelor’s degree (1 major, 1 minor) Political and Social Studies (2013)
Bachelor’s degree (1 major, 1 minor) Museology and material culture (2013)
Bachelor’s degree (1 major, 1 minor) English and American Studies (2010)
Bachelor’s degree (1 major, 1 minor) Russian Language and Culture (2008)
Bachelor’s degree (1 major, 1 minor) Russian Language and Culture (2012)
Bachelor’s degree (1 major, 1 minor) Gallo-Roman philology (2010)
Bachelor’s degree (1 major, 1 minor) German Language and Literature (2013)
Bachelor’s degree (1 major, 1 minor) German Language and Literature (2010)
Bachelor’s degree (1 major, 1 minor) Italian Studies (2010)
Bachelor’s degree (2 majors) Egyptology (2011)
Bachelor’s degree (2 majors) Classical Archaeology (2013)
Bachelor’s degree (2 majors) Pedagogy (2013)
Bachelor’s degree (2 majors) Protestant Theology (2009)
Bachelor’s degree (2 majors) History of Medieval and Modern Art (2013)
Bachelor’s degree (2 majors) Musicology (2011)
Bachelor’s degree (2 majors) Philosophy (2013)
Bachelor’s degree (2 majors) Comparative Indo-European Linguistics (2012)
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Bachelor’s degree (2 majors) Political and Social Studies (2011)
Bachelor’s degree (2 majors) Russian Language and Culture (2012)
Bachelor’s degree (2 majors) European Ethnology (2013)
Magister Theologiae Catholic Theology (2013)
Bachelor’s degree (2 majors) Geography (2010)
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Bachelor’s degree (2 majors) History (2009)
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Bachelor's degree (2 majors) Ancient Near Eastern Studies (2015)
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Bachelor's degree (1 major) Mathematical Physics (2016)
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Bachelor’ degree (1 major) Functional Materials (2021)
Bachelor’ degree (1 major) Computer Science und Sustainability (2021)
Bachelor’s degree (2 majors) Comparative Indo-European Linguistics (2021)
Bachelor’ degree (1 major) Food Chemistry (2021)
Bachelor’ degree (1 major) Quantum Technology (2021)
Bachelor’s degree (2 majors) Special Education (2021)
Bachelor’ degree (1 major) Business Information Systems (2021)
Bachelor’ degree (1 major) Economathematics (2021)