## 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

### Faculty of Biology

### ECTS
3

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

### 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) Biochemistry (2013)
- 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) Computer Science (2010)
- Bachelor’ degree (1 major) Food Chemistry (2009)
- Bachelor’ degree (1 major) Mathematics (2014)
- Bachelor’ degree (1 major) Mathematics (2012)
- Bachelor’ degree (1 major) Mathematics (2013)
- Bachelor’ degree (1 major) Musicology (2011)
- 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) Nanostructure Technology (2012)
Bachelor's degree (1 major) Economathematics (2009)
Bachelor's degree (1 major) Economathematics (2012)
Bachelor's degree (1 major) Economathematics (2008)
Bachelor's degree (1 major) Business Information Systems (2014)
Bachelor's degree (1 major) Business Information Systems (2013)
Bachelor's degree (1 major) Indology/South Asian Studies (2013)
Bachelor's degree (1 major) Mathematical Physics (2012)
Bachelor's degree (1 major) Human-Computer Systems (2010)
Bachelor's degree (1 major) Science of Music Education (2013)
Bachelor's degree (1 major) Computational Mathematics (2014)
Bachelor's degree (1 major) Computational Mathematics (2013)
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) Romanic Languages (French/Italian) (2013)
Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2013)
Bachelor's degree (1 major) Romanic Languages (Spanish/Italian) (2013)
Bachelor's degree (1 major) Functional Materials (2012)
Bachelor's degree (1 major) Academic Speech Therapy (2014)
Bachelor's degree (1 major, 1 minor) Classical Archaeology (2009)
Bachelor's degree (1 major, 1 minor) Classical Archaeology (2013)
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) Musicology (2011)
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) Spanish Studies (2013)
Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2012)
Bachelor's degree (1 major, 1 minor) Ancient World (2013)
Bachelor's degree (1 major, 1 minor) Spanish Studies (2010)
Bachelor's degree (1 major, 1 minor) Science of Music Education (2011)
Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2014)
Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2011)
Bachelor's degree (1 major, 1 minor) Geography (Focus Physical Geography) (2010)
Bachelor's degree (1 major, 1 minor) Geography (Focus Human 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 (2011)
Bachelor's degree (2 majors) Pedagogy (2013)
Bachelor's degree (2 majors) Protestant Theology (2009)
Bachelor's degree (1 major) Media Communication (2015)
Bachelor's degree (1 major) Political and Social Studies (2015)
Bachelor's degree (1 major) Romanic Languages (French/Italian) (2015)
Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2015)
Bachelor's degree (1 major) Romanic Languages (Spanish/Italian) (2015)
Bachelor's degree (1 major) Functional Materials (2015)
Bachelor's degree (1 major) Academic Speech Therapy (2015)
Bachelor's degree (1 major) Indology/South Asian Studies (2015)
Bachelor's degree (1 major, 1 minor) Egyptology (2015)
Bachelor's degree (1 major, 1 minor) Classical Archaeology (2015)
Bachelor's degree (1 major, 1 minor) Pedagogy (2015)
Bachelor's degree (1 major, 1 minor) French Studies (2015)
Bachelor's degree (1 major, 1 minor) History (2015)
Bachelor's degree (1 major, 1 minor) Italian Studies (2015)
Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2015)
Bachelor's degree (1 major, 1 minor) Musicology (2015)
Bachelor's degree (1 major, 1 minor) Philosophy (2015)
Bachelor's degree (1 major, 1 minor) Spanish Studies (2015)
Bachelor's degree (1 major, 1 minor) Pre- and Protohistoric Archaeology (2015)
Bachelor's degree (1 major, 1 minor) Ancient World (2015)
Bachelor's degree (1 major, 1 minor) Science of Music Education (2015)
Bachelor's degree (1 major, 1 minor) Philosophy and Religion (2015)
Bachelor's degree (1 major, 1 minor) Geography (Focus Physical Geography) (2015)
Bachelor's degree (1 major, 1 minor) Theological Studies (2015)
Bachelor's degree (1 major, 1 minor) Geography (Focus Human Geography) (2015)
Bachelor's degree (1 major, 1 minor) Political and Social Studies (2015)
Bachelor's degree (1 major, 1 minor) Museology and material culture (2015)
Bachelor's degree (1 major, 1 minor) English and American Studies (2015)
Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2015)
Bachelor's degree (1 major, 1 minor) German Language and Literature (2015)
Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2015)
Bachelor's degree (2 majors) Egyptology (2015)
Bachelor's degree (2 majors) Classical Archaeology (2015)
Bachelor's degree (2 majors) Pedagogy (2015)
Bachelor's degree (2 majors) Protestant Theology (2015)
Bachelor's degree (2 majors) History of Medieval and Modern Art (2015)
Bachelor's degree (2 majors) Musicology (2015)
Bachelor's degree (2 majors) Philosophy (2015)
Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2015)
Bachelor's degree (2 majors) Special Education (2015)
Bachelor's degree (2 majors) Pre- and Protohistoric Archaeology (2015)
Bachelor's degree (2 majors) Latin Philology (2015)
Bachelor's degree (2 majors) Science of Music Education (2015)
Bachelor's degree (2 majors) Philosophy and Religion (2015)
Bachelor's degree (2 majors) Theological Studies (2015)
Bachelor's degree (2 majors) Digital Humanities (2015)
Bachelor's degree (2 majors) Political and Social Studies (2015)
Bachelor's degree (2 majors) Russian Language and Culture (2015)
Bachelor's degree (2 majors) Greek Philology (2015)
Bachelor's degree (2 majors) European Ethnology (2015)
Bachelor's degree (2 majors) Indology/South Asian Studies (2015)
Bachelor's degree (2 majors) Ancient Near Eastern Studies (2015)
Bachelor's degree (2 majors) Geography (2015)
Bachelor's degree (2 majors) French Studies (2015)
Bachelor's degree (2 majors) History (2015)
Bachelor's degree (2 majors) Italian Studies (2015)
Bachelor's degree (2 majors) Spanish Studies (2015)
Bachelor's degree (2 majors) Sport Science (Focus on health and Pedagogics in Movement) (2015)
Bachelor's degree (2 majors) English and American Studies (2015)
Bachelor's degree (2 majors) German Language and Literature (2015)
Bachelor's degree (1 major) Mathematical Physics (2016)
Bachelor's degree (1 major) Human-Computer Systems (2016)
Bachelor's degree (1 major) Theological Studies (2011)
Bachelor's degree (2 majors) Theological Studies (2011)
Bachelor's degree (1 major, 1 minor) French Studies (2016)
Bachelor's degree (2 majors) French Studies (2016)
Bachelor's degree (2 majors) Italian Studies (2016)
Bachelor's degree (2 majors) Italian Studies (2016)
Bachelor's degree (1 major, 1 minor) Spanish Studies (2016)
Bachelor's degree (2 majors) Spanish Studies (2016)
Bachelor's degree (1 major) Romanic Languages (French/Italian) (2016)
Bachelor's degree (1 major) Romanic Languages (French/Spanish) (2016)
Bachelor's degree (1 major) Romanic Languages (Spanish/Italian) (2016)
Bachelor's degree (1 major) Business Information Systems (2016)
Bachelor's degree (1 major) Games Engineering (2016)
Bachelor's degree (1 major, 1 minor) English and American Studies (2016)
Bachelor's degree (2 majors) English and American Studies (2016)
Bachelor's degree (1 major) Media Communication (2016)
Bachelor's degree (1 major) Food Chemistry (2016)
Bachelor's degree (1 major, 1 minor) Digital Humanities (2016)
Bachelor's degree (1 major) Biology (2017)
Bachelor's degree (1 major, 1 minor) Geography (2017)
Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2017)
Bachelor's degree (2 majors) History of Medieval and Modern Art (2017)
Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2017)
Bachelor's degree (1 major) Aerospace Computer Science (2017)
Bachelor's degree (1 major) Modern China (2017)
Bachelor's degree (1 major) Biochemistry (2017)
Bachelor's degree (1 major) Chemistry (2017)
Bachelor's degree (1 major, 1 minor) Museology and material culture (2017)
Bachelor's degree (1 major) Economathematics (2017)
Bachelor's degree (1 major) Games Engineering (2017)
Bachelor's degree (1 major) Computer Science (2017)
Bachelor's degree (1 major) Media Communication (2018)
Bachelor's degree (1 major) Biomedicine (2018)
Bachelor's degree (1 major) Human-Computer Systems (2018)
Bachelor's degree (2 majors) Classical Archaeology (2018)
Bachelor's degree (1 major, 1 minor) Classical Archaeology (2018)
Bachelor's degree (1 major, 1 minor) Digital Humanities (2018)
Bachelor's degree (2 majors) Digital Humanities (2018)
Bachelor's degree (1 major) Computer Science (2019)
Bachelor's degree (1 major, 1 minor) English and American Studies (2019)
Bachelor's degree (1 major, 1 minor) Indology/South Asian Studies (2019)
Bachelor's degree (1 major) Indology/South Asian Studies (2019)
Bachelor's degree (1 major) Business Information Systems (2019)
Bachelor's degree (2 majors) Indology/South Asian Studies (2019)
Bachelor' degree (1 major) Business Management and Economics (2019)
Bachelor' degree (1 major) Modern China (2019)
Bachelor' degree (1 major) Food Chemistry (2019)