### Module description

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

**Abbreviation**
07-ASQ-GTB-152-m01

<table>
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<th>Module coordinator</th>
<th>Module offered by</th>
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<td>BioCareers</td>
<td>Faculty of Biology</td>
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<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
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<tr>
<td>3</td>
<td>Only after succ. compl. of module(s)</td>
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<tr>
<th>Duration</th>
<th>Module level</th>
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<tr>
<td>1 semester</td>
<td>undergraduate</td>
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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**

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<th>Type</th>
<th>Number of Weekly Contact Hours</th>
<th>Language</th>
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<td>S</td>
<td>(2)</td>
<td>German</td>
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**Once a year, summer semester**

### 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 (10 to 15 minutes)
- Language of assessment: German and/or English

### Allocation of places

- min. 7, max. 50 places (lottery)

### Additional information

- 

### Referred to in LPO I

(examination regulations for teaching-degree programmes)

- 

### Module appears in

- Bachelor’ degree (1 major) Chemistry (2007)
- 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 (2010)
- Bachelor’ degree (1 major) Physics (2012)
- Bachelor’ degree (1 major) Psychology (2010)
- Bachelor’ degree (1 major) Business Management and Economics (2009)
- Bachelor’ degree (1 major) Business Management and Economics (2013)
- Bachelor’ degree (1 major) Business Management and Economics (2010)
Bachelor's 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) Business Information Systems (2009)
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) Aerospace Computer Science (2011)
Bachelor's degree (1 major) Media Communication (2012)
Bachelor's degree (1 major) Political and Social Studies (2011)
Bachelor's degree (1 major) FOKUS Chemistry (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)
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Bachelor's degree (1 major, 1 minor) Pedagogy (2011)
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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) Italian Studies (2013)
Bachelor's degree (1 major, 1 minor) History of Medieval and Modern Art (2013)
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Bachelor's degree (1 major, 1 minor) Musicology (2011)
Bachelor's degree (1 major, 1 minor) Musicology (2008)
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)
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Bachelor's degree (1 major, 1 minor) Ancient World (2013)
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Bachelor's degree (1 major, 1 minor) Geography (Focus Physical Geography) (2010)
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Bachelor's degree (1 major, 1 minor) Political and Social Studies (2013)
Bachelor's degree (1 major, 1 minor) Museology and material culture (2010)
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Bachelor's degree (1 major, 1 minor) English and American Studies (2010)
Bachelor's degree (1 major, 1 minor) Russian Language and Culture (2008)
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Bachelor's degree (1 major, 1 minor) Gallo-Roman philology (2010)
Bachelor's degree (1 major, 1 minor) German Language and Literature (2013)
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Bachelor's degree (2 majors) Comparative Indo-European Linguistics (2012)
Bachelor's degree (2 majors) Special Education (2009)
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