# Biophysical Chemistry II (iMOS)

<table>
<thead>
<tr>
<th>Module</th>
<th>Credits</th>
<th>Workload</th>
<th>Term</th>
<th>Frequency</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>12 EC</td>
<td>5 CP</td>
<td>150 h</td>
<td>1. Sem.</td>
<td>WiSe</td>
<td>1 Semester</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Courses</th>
<th>Contact hours</th>
<th>Self-Study</th>
<th>Group size</th>
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<tbody>
<tr>
<td>a) Lectures</td>
<td>a) 2 SWS</td>
<td>90 h</td>
<td>30 Students</td>
</tr>
<tr>
<td>b) Exercises</td>
<td>b) 1 SWS</td>
<td></td>
<td></td>
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<tr>
<td>c) Seminar</td>
<td>c) 1 SWS</td>
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## Prerequisites
Knowledge in basic Physical Chemistry.

## Learning outcomes
After successful completion of the module/course, students will be able to:

- Acquire advanced knowledge in experimental methods in the investigation of dynamics and thermodynamics of proteins and membranes, and on protein reaction and function based on selected examples
- Understand their applications, advantages, and disadvantages of the methods
- Analyze and screen relevant literatures independently
- Develop presentation skills in front of an audience
- Utilize digital techniques to prepare and conduct a presentation

## Content
Advanced Biophysical techniques:

- Microcalorimetry in protein characterization
- Fluorescence-based methods in protein interactions
- Advanced fluorescence microscopy
- Fourier transform spectroscopy
- Attenuated total reflection (ATR) spectroscopy
- Vibrational spectroscopy in biomolecular solvation
- Scanning probe microscopy (SPM) in biochemistry

## Teaching methods
Lecture (2 SWS, 30 h), Exercise (1 SWS, 15 h), Seminar (1 SWS, 15 h).

## Mode of assessment
Participation in all seminars and presentation about an assigned publication. Written exam of 60 mins.

## Requirement for the award of credit points
Pass both parts: presentation (50%) and written exam (50%).

## Module applicability

## Weight of the mark for the final score
Weighted according to CPs.

## Module coordinator and lecturer(s)
Lecturers from Physical Chemistry departments.

## Further information