che414 - Research Laboratory Course in Physical Chemistry

Module label  Research Laboratory Course in Physical Chemistry
Module code  che414
Credit points  15.0 KP
Workload  450 h
Used in course of study  • Master's Programme Chemistry > Mastermodule
Contact person

Module responsibility
- Gunther Wittstock
- Katharina Al-Shamery

Authorized examiners
- Katharina Al-Shamery
- Gunther Wittstock
- Mehtap Özaslan
- Carsten Dosche
- Izabella Brand

Module counceling
- Gunther Wittstock
- Katharina Al-Shamery

Entry requirements
Skills to be acquired in this module
Students acquire practical skills in complex instrumental methods of Physical Chemistry and apply them for solving a scientific problem. They learn the handling as well as presentation of research results. They use original literature, scripts and handbooks and operational procedures to prepare and conduct complex experiments.

Module contents
Master of Science
Students select 3 method courses out of the catalogue from physical chemistry. The courses should be related to the topic and requirements of the research exercise. Exceptions are possible after consultation with the student advisors of this module (Al-Shamery, Wittstock). Each method course comprises self-study, class-room instruction, a preset experiment and data evaluation. Students present the result of own literature research in a seminar talk. Students solve a research exercise in which they extend their capabilities in a selected area beyond the method courses.

PhD program Interface Science
Students may select method courses for their further qualification (1-2 KP each) and attend a colloquium (30 min pass/fail) at the end of the method course. PhD students can only select method courses that have not been part of their MSc. curriculum.

Themen der Methodenkurse

Ständige Angebote
- scanning electrochemical microscopy (Wittstock, SoSe)
- x-ray photoelectron spectroscopy (Wittstock, Dosche, SoSe)
- impedanz spectroscopy (Dosche, SoSe)
- polarisation modulation infrared reflection absorption spectroscopy (Brand, SoSe)
- rotating ring-disk electrode (Özaslan, SoSe)
- transmission electron microscopy (Al-Shamery, WiSe)

Reader’s advisory

Links

Languages of instruction  German, English
Duration (semesters)  2 Semester
Module frequency  halbjährlich
Module capacity  unlimited
Modulelevel  MM (Mastermodul)
Modulart  Wahlpflicht

Lern-/Lehrform / Type of program

Vorkenntnisse / Previous knowledge

Examination  Time of examination  Type of examination
Final exam of module

Course type  Comment  SWS  Frequency  Workload attendance

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<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Semester</th>
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<tbody>
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<td>Seminar</td>
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<tr>
<td>Practical</td>
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Total time of attendance for the module

308 h