

Modulbezeichnung: Physical chemistry (CM3-PC) **15 ECTS**
(Physical chemistry)

Modulverantwortliche/r: Dirk Guldi

Lehrende: Thomas Drewello, Carola Krysch, Dirk Guldi, Jörg Libuda, Guido Sauer

Startsemester: WS 2019/2020

Dauer: 2 Semester

Turnus: halbjährlich (WS+SS)

Präsenzzeit: 225 Std.

Eigenstudium: 225 Std.

Sprache: Englisch

Lehrveranstaltungen:

A: Advanced Physical Chemistry I - Interface Science and Catalysis

Advanced Physical Chemistry I - Interface Science and Catalysis (WS 2019/2020, Vorlesung, 2 SWS, Jörg Libuda)

Advanced Physical Chemistry I - Seminar Interface Science and Catalysis (WS 2019/2020, Seminar, 1 SWS, Jörg Libuda)

B: Advanced Physical Chemistry II - Applied spectroscopy

Advanced Physical Chemistry II - Applied Spectroscopy (SS 2020, Vorlesung, 2 SWS, Thomas Drewello et al.)

Advanced Physical Chemistry II - Seminar Applied Spectroscopy (SS 2020, Seminar, 1 SWS, Thomas Drewello et al.)

C: Advanced Physical Chemistry - Laboratory course

Attendance in lab course is compulsory!

Advanced Physical Chemistry - Lab Course (WS 2019/2020, Praktikum, 9 SWS, Guido Sauer et al.)

Advanced Physical Chemistry - Lab Course (SS 2020, Praktikum, 9 SWS, Guido Sauer et al.)

Empfohlene Voraussetzungen:

- Erfolgreicher Abschluss des Moduls CK3

Inhalt:

- introduction to the current topics of research in the field of physical chemistry
- developing the basics of physical chemistry at the level of a scientifically oriented Master's program
- deepening of knowledge in the specialized field of the lecturers involved in this module to the limit of current knowledge
- experimental studies on selected chapters of physical chemistry at an advanced level

Lernziele und Kompetenzen:

Students

- apply fundamental knowledge of physical chemistry to particular topics in research
- develop model-like descriptions for complex physicochemical systems and model experimental data
- discover various modern experimental equipment and devices techniques and apply them systematically in practice
- perform experiments/measurements and interpret results independently
- evaluate the basic safety matters in handling hazardous materials and operating complex.

Literatur:

P. Atkins, J. De Paula, Atkins' Physical Chemistry, 10th edition, Oxford University Press, Oxford, 2014;

Literature references provided in the guidelines of each experiment

Organisatorisches:

Module frequency: **A.** winter term, **B.** summer term, **C.** winter and summer term

Grading procedure: 100% from oral examination

Bemerkungen:

Module compatibility: M.Sc. Chemie (Mandatory module) / M.Sc. Molecular Science (Elective module)