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

Modulverantwortliche/r: Dirk Guldi
Lehrende: Carola Kryschi, Thomas Drewello, Guido Sauer, Dirk Guldi, Jörg Libuda

Startsemester: WS 2018/2019	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 2018/2019, Vorlesung, 2 SWS, Jörg Libuda)

Advanced Physical Chemistry I - Seminar Interface Science and Catalysis (WS 2018/2019, Seminar, 1 SWS, Jörg Libuda)

B: Advanced Physical Chemistry II - Applied spectroscopy

Advanced Physical Chemistry II - Applied Spectroscopy (SS 2019, Vorlesung, 2 SWS, Thomas Drewello et al.)

Advanced Physical Chemistry II - Seminar Applied Spectroscopy (SS 2019, 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 2018/2019, Praktikum, 9 SWS, Guido Sauer et al.)

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

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

Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

Das Modul ist im Kontext der folgenden Studienfächer/Vertiefungsrichtungen verwendbar:

[1] **Chemie (Master of Science): 1-2. Semester**
(Po-Vers. 2009 | NatFak | Chemie (Master of Science) | Kernmodul | Physikalische Chemie)

Studien-/Prüfungsleistungen:

Mündliche Prüfung Physik. Chemie (Prüfungsnummer: 65201)
(englische Bezeichnung: Oral Examination on Physical Chemistry)
Prüfungsleistung, mündliche Prüfung, Dauer (in Minuten): 45
Anteil an der Berechnung der Modulnote: 100%
weitere Erläuterungen:
O45 (PL), 2 examiners
A.: LEC (SL), B.: LEC (SL), C.: LAB (SL)
Calculation of the grade for the module: Result of the oral exam (100%)
Prüfungssprache: Englisch

Erstablegung: SS 2019, 1. Wdh.: WS 2019/2020
1. Prüfer: Dirk Guldi

Organisatorisches:
Module frequency: **A.** winter term, **B.** summer term, **C.** winter and summer term
Bemerkungen:
Module compatibility: M.Sc. Chemie / M.Sc. Molecular Science (Elective module)