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| <b>Modulbezeichnung:</b> Physical chemistry (CM3-PC)<br>(Physical chemistry)    | <b>15 ECTS</b>               |
| Modulverantwortliche/r: Dirk Guldi  |                              |
| Lehrende: Guido Sauer, Jörg Libuda, Dirk Guldi, Carola Kryschi, Thomas Drewello |                              |
| Startsemester: SS 2020  | Dauer: 2 Semester            |
| Präsenzzeit: 225 Std.   | Eigenstudium: 225 Std.       |
|   | Turnus: halbjährlich (WS+SS) |
|   | Sprache: Englisch            |

### Lehrveranstaltungen:

**A: Advanced Physical Chemistry I - Interface Science and Catalysis**

**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 of lab course is compulsory!

Advanced Physical Chemistry - Lab Course (SS 2020, 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): Oral examination 45 min, 2 examiners,

A.: LEC (SL), B.: LEC (SL), C.:LAB (SL)

Prüfungssprache: Englisch

Erstablingung: WS 2020/2021, 1. Wdh.: SS 2021

1. Prüfer: Dirk Guldi
1. Prüfer: Jörg Libuda
1. Prüfer: Thomas Drewello
1. Prüfer: Carola Kryschi

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**Organisatorisches:**

Frequency of offer: **A.** winter term, LEC (SL); **B.** summer term, LEC (SL); **C.** winter and summer term, LAB (SL)

Calculation of the grade for the module: Result of the oral examination (100%)

**Bemerkungen:**

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