Modulbezeichnung:	Catalysis (CME2) (Catalysis)	15 ECTS
Modulverantwortliche/r:	Hans-Peter Steinrück	
Lehrende:	u.a., Julien Bachmann, Svetlana Tsogoeva, Jörg Libuda, Sjoerd Harder, Andriy Mokhir, Hans-Peter Steinrück, Thomas Drewello, Romano Dorta	

Startsemester: WS 2018/2019	Dauer: 2 Semester	Turnus: halbjährlich (WS+SS)
Präsenzzeit: 195 Std.	Eigenstudium: 255 Std.	Sprache: Englisch

Lehrveranstaltungen:

Please attend one **lab course** and choose one of the given **Options A - D**:

Lab course (7 LAB):

Attendance in lab course is compulsory!

Lab Course Catalysis (WS 2018/2019, Praktikum, 7 SWS, Hans-Peter Steinrück et al.)
Lab Course Catalysis (SS 2019, Praktikum, 7 SWS, Hans-Peter Steinrück et al.)

Lectures and seminars:

Option A:

Nanoparticles and Nanostructured Thin Films / Nanopartikel und nanostrukturierte dünne Schichten (WS 2018/2019, Vorlesung, 2 SWS, Julien Bachmann)
Nanoparticles and Nanostructured Thin Films / Nanopartikel und nanostrukturierte dünne Schichten - Seminar (WS 2018/2019, Seminar, Julien Bachmann)
Catalysis and Kinetics (SS 2019, Vorlesung, 2 SWS, Jörg Libuda)
Seminar Catalysis and Kinetics (SS 2019, Seminar, 1 SWS, Jörg Libuda et al.)

Option B:

Catalytic reactions with transition metals (SS 2019, Vorlesung, 2 SWS, Sjoerd Harder et al.)
Catalytic reactions with transition metals (SS 2019, Seminar, 1 SWS, Romano Dorta et al.)
Organocatalysis and catalytic reactions in water (SS 2019, Vorlesung, 2 SWS, Svetlana Tsogoeva et al.)
Organocatalysis and catalytic reactions in water - Seminar (SS 2019, Seminar, 1 SWS, Svetlana Tsogoeva et al.)

Option C:

Modern Methods in Mass Spectrometry (WS 2018/2019, Vorlesung, 2 SWS, Thomas Drewello)
Seminar Modern Methods in Mass Spectrometry (WS 2018/2019, Seminar, 1 SWS, Thomas Drewello et al.)
Catalytic reactions with transition metals (SS 2019, Vorlesung, 2 SWS, Sjoerd Harder et al.)
Catalytic reactions with transition metals (SS 2019, Seminar, 1 SWS, Romano Dorta et al.)

Option D:

Modern Methods in Mass Spectrometry (WS 2018/2019, Vorlesung, 2 SWS, Thomas Drewello)
Seminar Modern Methods in Mass Spectrometry (WS 2018/2019, Seminar, 1 SWS, Thomas Drewello et al.)
Catalysis and Kinetics (SS 2019, Vorlesung, 2 SWS, Jörg Libuda)
Seminar Catalysis and Kinetics (SS 2019, Seminar, 1 SWS, Jörg Libuda et al.)

Inhalt:

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

Lernziele und Kompetenzen:

Students

- explain the basics of catalysis
- present and compare basics of different modern experimental or theoretical methods in catalysis
- apply basic knowledge to current issues in research

- analyse experimental data and interpret results referring to literature data independently
- apply model-like descriptions for complex systems and model experimental data

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Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

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

[1] **Chemie (Master of Science): 1-3. Semester**

(Po-Vers. 2009 | NatFak | Chemie (Master of Science) | Wahlpflichtmodul | Katalyse)

Studien-/Prüfungsleistungen:

Katalyse (Prüfungsnummer: 65401)

(englische Bezeichnung: Oral Examination or Examination (Klausur) on Catalysis)

Prüfungsleistung, mündliche Prüfung, Dauer (in Minuten): 45
Anteil an der Berechnung der Modulnote: 100%
weitere Erläuterungen:
OE45, 2 examiners (PL), LAB (SL)
Prüfungssprache: Englisch

Erstablegung: WS 2018/2019, 1. Wdh.: SS 2019
1. Prüfer: Julien Bachmann
1. Prüfer: Romano Dorta
1. Prüfer: Thomas Drewello
1. Prüfer: Svetlana Tsogoeva

Bemerkungen:

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