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**Modulbezeichnung:** Theory of catalytical processes (IntCat-1) 5 ECTS  
(Theory of catalytical processes)

Modulverantwortliche/r: Jörg Libuda  
Lehrende: Bernd Meyer

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Startsemester: WS 2020/2021	Dauer: 1 Semester	Turnus: halbjährlich (WS+SS)
Präsenzzeit: 45 Std.	Eigenstudium: 105 Std.	Sprache: Englisch

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### Lehrveranstaltungen:

Please note:

- **MSc Chemistry students** can choose one of the following 2 lectures!
  - **MSc Molecular NANO Science students** have to attend the lecture of Prof. Meyer: **Theory of catalytic processes!**  
Theory of catalytic processes (WS 2020/2021, Vorlesung mit Übung, 3 SWS, Bernd Meyer)  
Nanostructured Materials and Interfaces (WS 2020/2021, Seminar, 3 SWS, Julien Bachmann et al.)
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### Inhalt:

The module focuses on physical, chemical or technological aspects of modification, manipulation and characterization of interfaces. These aspects relate to the research of ideal model systems (surfaces and adsorbates on single crystal surfaces) or real systems, in which the interface plays a crucial role for the respective properties. In all cases, the local electronic and chemical interactions at the interface affect the geometric structure (e.g. adsorption geometry) and consequently the chemical and physical properties.

### Lernziele und Kompetenzen:

Students

- deepen their knowledge in experimental methods and theoretical aspects to describe and characterize interface phenomena
  - are able to perform experiments independently and to analyse the data
  - are familiar with the model-type description of experimental data
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### Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

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

[1] **Molecular Science (Master of Science): ab 1. Semester**

(Po-Vers. 2020w | NatFak | Molecular Science (Master of Science) | Compulsory elective module | Advances in Interface Research and Catalysis | Theory of Catalytic Processes)

[2] **Molecular Science (Master of Science): ab 1. Semester**

(Po-Vers. 2020w | NatFak | Molecular Science (Master of Science) | Elective modules | Theory of Catalytic Processes)

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### Studien-/Prüfungsleistungen:

Theory of catalytical processes (Prüfungsnummer: 65311)

Prüfungsleistung, mündliche Prüfung, Dauer (in Minuten): 20

Anteil an der Berechnung der Modulnote: 100%

weitere Erläuterungen:

O20 (PL): Oral examination (20 minutes) or alternative examinations according FAU Corona Statutes!

Prüfungssprache: Englisch

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

1. Prüfer: Bernd Meyer

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### Organisatorisches:

Please note:

- students have to register for the module examination on MeinCampus (check registration periods)!
- registration/further information via StudOn

**Bemerkungen:**

Module compability:

- within the Compulsory Elective Module **Advances in Interfaces and Catalysis** (20 ECTS)!
- module can also be taken as part of the elective module (5 ECTS, not graded)!
- **MSc Molecular NANO Science students** have to attend the lecture "Theory of catalytic processes"/**MSc Chemistry student** can choose one out of the 2 lectures