

Modulbezeichnung: **Advanced Molecular Synthesis (TSC-4)** **15 ECTS**
(Advanced Molecular Synthesis)

Modulverantwortliche/r: Rainer Fink

Lehrende: N.N

Startsemester: SS 2021

Dauer: 1 semester

Turnus: jährlich (SS)

Präsenzzeit: 90 Std.

Eigenstudium: 360 Std.

Sprache: Englisch

Lehrveranstaltungen:

1. Reaction Mechanisms and analytical tools (S) 2 Hours
2. Advanced Organic Synthesis (T) 2 Hours
3. Advanced Inorganic Synthesis (T) 2 hours

Empfohlene Voraussetzungen:

e-Course: Experimental Chemistry and Lab Safety (module TSC-1)

Inhalt:

Organic chemistry: Introduction to retrosynthesis with the concepts of synthon, functional group interconversion, functional group addition, reconnection

Inorganic chemistry: Selected synthesis routes of representatives of various substance classes; characteristic reaction types; structural peculiarities and their interpretation in qualitative binding models

Lernziele und Kompetenzen:

The students

- are familiar with analysis of sophisticated syntheses and analysis.
- have the expertise to work independently on issues related to the considered substance classes and organic synthesis
- are able to work out synthesis strategies for the representation of arbitrary representatives with the help of literature studies
- can elucidate the structures of the substances and independently analyze their essential properties including their hazard potential
- are capable of moderately complex molecules such. As natural products or pharmaceuticals, to dissect the rules of retrosynthesis and propose a synthesis
- have self-competence to transfer acquired substance knowledge to non-specialists.

Literatur:

Warren: Organic Synthesis - Strategy and Control, Wiley;

Clayden et al: "Organic Chemistry", Oxford University Press;

J:E. Huheey et al: Inorganic Chemistry: Principles of Structure and Reactivity, Addison Wesley Pub;

Shriver & Atkins: Inorganic Chemistry, Oxford University Press.

Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

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

[1] **Transition Studies Chemistry (keine Abschlussprüfung angestrebt bzw. möglich)**

(Po-Vers. 2020w | Advanced Molecular Synthesis)

Studien-/Prüfungsleistungen:

Advanced Molecular Synthesis (Prüfungsnummer: 90631)

Studienleistung, Klausur, Dauer (in Minuten): 90

weitere Erläuterungen:

Grading procedure: 100% Written exam, 90 minutes, no grades, **pass or fail**

Prüfungssprache: Englisch

Erstablingung: SS 2021, 1. Wdh.: keine Angabe

1. Prüfer: Rainer Fink

Organisatorisches:

Integration in curriculum: 2nd semester Transition Studies