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

Erstablegung: SS 2021, 1. Wdh.: keine Angabe
1. Prüfer: Rainer Fink

Organisatorisches:

Integration in curriculum: 2nd semester Transition Studies