

Modulbezeichnung: Medicinal chemistry A (Pharmaceutical chemistry) (MSM-ME5A) 15 ECTS
(Medicinal chemistry A (Pharmaceutical chemistry))

Modulverantwortliche/r: Monika Pischetsrieder

Lehrende: Jutta Eichler, Peter Gmeiner

Startsemester: WS 2019/2020

Dauer: 2 Semester

Turnus: jährlich (WS)

Präsenzzeit: 210 Std.

Eigenstudium: 240 Std.

Sprache: Deutsch

Lehrveranstaltungen:

A1: Pharmacopoeia-based analysis of bioactive compounds (1L + 1L)

Pharmazeutisch-medizinische Analytik II/Pharmacopoeia based analysis (WS 2019/2020, Vorlesung, 1 SWS, Jutta Eichler)

Pharmazeutisch-medizinische Analytik III (SS 2020, Vorlesung, 1 SWS, Jutta Eichler)

A2: Pharmaceutical/Medicinal Chemistry (3 L + 3L)

Medizinische Chemie A1 (5.+7. Semester) / Medical Chemistry (WS 2019/2020, Vorlesung, 3 SWS, Peter Gmeiner)

Medizinische Chemie A2 (6.+8. Semester) (SS 2020, Vorlesung, 3 SWS, Peter Gmeiner)

A3: Pharmacopoeia-based analysis of bioactive compounds (7 Lab)

Attendance in lab courses is compulsory!

Praktikum Arzneibuchanalytik / Practical Pharmacopoeia based Analysis (WS 2019/2020, Praktikum, 7 SWS, Jutta Eichler et al.)

Inhalt:

A1: General, as well as substance-specific methods for the qualitative and quantitative analysis (identity, purity, concentration) of drug substances according to the European Pharmacopoeia; assessment of physico-chemical properties and reactivities of drug substances, based on their structures; evaluation of the informational value (selectivity, specificity) of individual analysis methods/reactions; special focus: color reactions.

A2: Theoretical knowledge and understanding for the mechanism of action, chemical synthesis, biotransformation, physicochemical properties and SAR studies of the most important drugs and bioactive compound families including: Agents affecting the nervous system, agents with cardiovascular effects, antiallergics, analgesics, antidiabetics, antibiotics, chemotherapeutics and vitamins.

A3: lab course on the pharmaceutical analysis of drugs; determination of identity, purity and quantification

Lernziele und Kompetenzen:

The students

- gain insight into the design, synthesis & development of new drug products in the medicinal/pharmaceutical area
- acquire expertise for the theoretical evaluation and practical application of the most important techniques for the instrumental and bioanalysis of drugs
- are able to reflect crucial theories of the specialty in order to challenge problems in analytical practice.

Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

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

[1] Molecular Science (Master of Science)

(Po-Vers. 2013 | NatFak | Molecular Science (Master of Science) | Wahlpflichtmodul Molecular Science)

Studien-/Prüfungsleistungen:

Medizinische Chemie - Ausrichtung Pharmazeutische Chemie (Prüfungsnummer: 30808)

(englische Bezeichnung: Medicinal Chemistry - Focus: Pharmaceutical Chemistry)

Prüfungsleistung, schriftlich oder mündlich

Anteil an der Berechnung der Modulnote: 10%

weitere Erläuterungen:

Assessment and examinations:

Oral examination (45 min) or alternative examination according to FAU Corona statutes!

Prüfungssprache: Deutsch

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

1. Prüfer: Peter Gmeiner

Organisatorisches:

Frequency of offer: annually (**starts only in winter term!**)

A3: winter term, **A1/A2:** winter & summer term,

Language:

English: **A3**; German: **A1, A2**

Bemerkungen:

Intended stage in the degree course: Mandatory elective module (Wahlpflichtmodul) or Elective module (Wahlmodul)

Courses of study for which the module is acceptable: **M.Sc. Molecular Life Science**