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

Modulverantwortliche/r: Monika Pischetsrieder  
Lehrende: Peter Gmeiner, Jutta Eichler

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Startsemester: WS 2019/2020	Dauer: 2 Semester	Turnus: jährlich (WS)
Präsenzzeit: 210 Std.	Eigenstudium: 240 Std.	Sprache: Deutsch

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**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.)

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**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.
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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)**

(Po-Vers. 2007 | NatFak | Molecular Science (Master of Science) | alte Prüfungsordnungen | Gesamtkonto | Wahlpflichtmodul Molecular Science)

[2] **Molecular Science (Master of Science)**

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

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**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

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**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**