

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

Modulverantwortliche/r: Monika Pischetsrieder

Lehrende: Peter Gmeiner, Jutta Eichler

Startsemester: WS 2017/2018

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 2017/2018, Vorlesung, 1 SWS, Jutta Eichler)

Pharmazeutisch-medizinische Analytik III (SS 2018, Vorlesung, 1 SWS, Jutta Eichler)

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

Medizinische Chemie A1 (5.+7. Semester) / Medical Chemistry (WS 2017/2018, Vorlesung, 3 SWS, Peter Gmeiner)

Medizinische Chemie A2 (6.+8. Semester) (SS 2018, 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 2017/2018, 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. 2007 | NatFak | Molecular Science (Master of Science) | alte Prüfungsordnungen | Masterprüfung | Wahlpflichtmodul Molecular Science)

##### [2] 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, mündliche Prüfung, Dauer (in Minuten): 45

Anteil an der Berechnung der Modulnote: 100%

weitere Erläuterungen:

**Assessment and examinations:** O45 (PL)+ LAB (SL): oral examination (45 min, 2 examiners)+ lab course protocol(s), ungraded,+ presentation

**Calculation of the grade for the module:** 100% from oral examination

Prüfungssprache: Deutsch

Erstablingung: SS 2018, 1. Wdh.: WS 2018/2019

1. Prüfer: Monika Pischetsrieder

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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**