Subdivided Module Catalogue
for the Subject
Food Chemistry
as a Master’s with 1 major
with the degree "Master of Science"
(120 ECTS credits)

Examination regulations version: 2012
Responsible: Faculty of Chemistry and Pharmacy
Course of Studies - Contents and Objectives

No translation available.
Abbreviations used

Course types: E = field trip, K = colloquium, O = conversatorium, P = placement/lab course, R = project, S = seminar, T = tutorial, Ü = exercise, V = lecture

Term: SS = summer semester, WS = winter semester

Methods of grading: NUM = numerical grade, B/NB = (not) successfully completed

Regulations: (L)ASPO = general academic and examination regulations (for teaching-degree programmes), FSB = subject-specific provisions, SFB = list of modules

Other: A = thesis, LV = course(s), PL = assessment(s), TN = participants, VL = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

ASPO2009

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

28-Aug-2012 (2012-153)
25-Oct-2017 (2017-64)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.
The subject is divided into

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Module title</th>
<th>ECTS credits</th>
<th>Method of grading</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory Courses (75 ECTS credits)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08-LMC-BCdE1-122-m01</td>
<td>Nutritional Biochemistry</td>
<td>7</td>
<td>NUM</td>
<td>6</td>
</tr>
<tr>
<td>08-LMC-BCdE2-122-m01</td>
<td>Laboratory Courses in Nutritional Biochemistry</td>
<td>7</td>
<td>NUM</td>
<td>20</td>
</tr>
<tr>
<td>08-LMC-LMTox-122-m01</td>
<td>Toxicology of Food</td>
<td>9</td>
<td>NUM</td>
<td>17</td>
</tr>
<tr>
<td>08-LMC-LMRecht-122-m01</td>
<td>Food Law, Tobacco Law, Feed Law and Tangented Law</td>
<td>5</td>
<td>NUM</td>
<td>14</td>
</tr>
<tr>
<td>08-LMC-SpezLM-122-m01</td>
<td>Special Food and Animal Feed</td>
<td>8</td>
<td>NUM</td>
<td>8</td>
</tr>
<tr>
<td>08-LMC-LMCP-122-m01</td>
<td>Analysis and Evaluation of Foodstuffs, Cosmetics, Commodities, Tobacco Products, and Animal Feed</td>
<td>5</td>
<td>NUM</td>
<td>24</td>
</tr>
<tr>
<td>08-LMC-KBT-122-m01</td>
<td>Cosmetics, Commodities and Tobacco Products</td>
<td>4</td>
<td>NUM</td>
<td>29</td>
</tr>
<tr>
<td>08-LMC-UA-122-m01</td>
<td>Environmental Analysis</td>
<td>5</td>
<td>NUM</td>
<td>23</td>
</tr>
<tr>
<td>08-LMC-LMT-122-m01</td>
<td>Technology of Foodstuffs including water for human use, Cosmetics, Commodities, Tobacco Products, and Animal Feed</td>
<td>5</td>
<td>NUM</td>
<td>22</td>
</tr>
<tr>
<td>08-LMC-MEV-122-m01</td>
<td>Development and Validation of Methods in Food Analysis</td>
<td>5</td>
<td>NUM</td>
<td>19</td>
</tr>
<tr>
<td>08-LMC-LMCF-122-m01</td>
<td>Current Research in Food Chemistry</td>
<td>15</td>
<td>NUM</td>
<td>5</td>
</tr>
<tr>
<td><strong>Compulsory Electives (15 ECTS credits)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specialist Lab Course (5 ECTS credits)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08-LMC-WPV1-122-m01</td>
<td>Advanced Laboratory Courses in the Toxicology of Food</td>
<td>5</td>
<td>NUM</td>
<td>27</td>
</tr>
<tr>
<td>08-LMC-WPV2-122-m01</td>
<td>Advanced Laboratory Course in Environmental Analysis</td>
<td>5</td>
<td>NUM</td>
<td>28</td>
</tr>
<tr>
<td><strong>Additional Qualifications (10 ECTS credits)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08-LMC-WPZ1-122-m01</td>
<td>Industrial Internship 1 (Short)</td>
<td>5</td>
<td>B/NB</td>
<td>16</td>
</tr>
<tr>
<td>08-LMC-WPZ2-122-m01</td>
<td>Industrial Internship 2 (Long)</td>
<td>10</td>
<td>B/NB</td>
<td>13</td>
</tr>
<tr>
<td>08-LMC-WPZ3-122-m01</td>
<td>Safety Evaluation of Food</td>
<td>5</td>
<td>B/NB</td>
<td>21</td>
</tr>
<tr>
<td>08-LMC-WPZ4-122-m01</td>
<td>Applied Food Law</td>
<td>5</td>
<td>B/NB</td>
<td>7</td>
</tr>
<tr>
<td>08-LMC-WPZ5-122-m01</td>
<td>Courses related to Food Chemistry outside of the Natural Sciences</td>
<td>5</td>
<td>B/NB</td>
<td>25</td>
</tr>
<tr>
<td>08-LMC-WPZ6-122-m01</td>
<td>Courses related to Food Chemistry within the Natural Sciences</td>
<td>5</td>
<td>B/NB</td>
<td>26</td>
</tr>
<tr>
<td>08-APM1-102-m01</td>
<td>Foreign Studies (short)</td>
<td>5</td>
<td>B/NB</td>
<td>15</td>
</tr>
<tr>
<td>08-APM2-102-m01</td>
<td>Foreign Studies (long)</td>
<td>10</td>
<td>B/NB</td>
<td>12</td>
</tr>
<tr>
<td>08-WRM1-102-m01</td>
<td>Tutoring 1 (practical course)</td>
<td>5</td>
<td>B/NB</td>
<td>10</td>
</tr>
<tr>
<td>08-WRM2-102-m01</td>
<td>Tutoring 2 (practical course)</td>
<td>5</td>
<td>B/NB</td>
<td>11</td>
</tr>
<tr>
<td><strong>Thesis (30 ECTS credits)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08-LMC-MA-122-m01</td>
<td>Master Thesis</td>
<td>30</td>
<td>NUM</td>
<td>18</td>
</tr>
</tbody>
</table>
### Module title
Current Research in Food Chemistry

### Abbreviation
08-LMC-LMCF-122-m01

### Module coordinator
holder of the Chair of Food Chemistry

### Module offered by
Institute of Pharmacy and Food Chemistry

### ECTS
15

### Method of grading
Numerical grade

### Only after succ. compl. of module(s)

### Duration
1 semester

### Module level
Graduate

### Other prerequisites

### Contents
German contents available but not translated yet.

Suche in und Arbeiten mit lebensmittelchemischer Fachliteratur und Datenbanken, Diskussion aktueller Forschungsergebnisse und aktueller lebensmittelchemische Methoden, Lösen wissenschaftlicher Fragestellungen, Statistische Auswertung von Daten, Darstellung und Präsentation wissenschaftlicher Ergebnisse.

### Intended learning outcomes
German intended learning outcomes available but not translated yet.

Die Studierenden können Literatur zu einer wissenschaftlichen Fragestellung recherchieren, diese experimentell lösen, diesen Prozess dokumentieren und das Ergebnis in einer Präsentation vorstellen.

### Courses
S + S + Ü + P (no information on SWS (weekly contact hours) and course language available)

### Method of assessment
Assessment and documentation of practical performance (approx. 30 pages), written report (approx. 5 to 10 pages) and talk (approx. 20 minutes)

Language of assessment: German or English

### Allocation of places

### Additional information

### Referred to in LPO I
(examination regulations for teaching-degree programmes)
# Module Catalogue

**Subdivided Module Catalogue for the Subject Food Chemistry**

### Master's with 1 major, 120 ECTS credits

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Biochemistry</td>
<td>08-LMC-BCdE1-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 2. Letter e of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

## Contents

Quantitative and qualitative aspects of nutrition, e.g. energy balance, basal metabolic rate, the gross and metabolisable energy of the three main nutrients, biological value; fundamental principles of dietetics and special diets; functions of the main organs; fundamental principles of digestion, absorption and excretion as well as of the biosynthesis and metabolism of food constituents; interactions in intermediary metabolism; principles of metabolic regulation and hormonal regulation; mineral metabolism; nutrition and vitamins.

## Intended learning outcomes

Students know how the relevant micro and macronutrients are transported through the human body. They have developed an understanding of the biochemical processing of nutrients in the cells and of the regulatory mechanisms of metabolic pathways.

## Courses

(type, number of weekly contact hours, language — if other than German)

V + V (no information on SWS (weekly contact hours) and course language available)

## Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German or English

## Allocation of places

--

## Additional information

--

## Referred to in LPO I

(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Food Law</td>
<td>08-LMC-WPZ4-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Assessment of foods on the basis of applicable food law.

**Intended learning outcomes**

Students are able to assess foods on the basis of applicable food law.

**Courses** (type, number of weekly contact hours, language — if other than German)

Ü (no information on SWS (weekly contact hours) and course language available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written report (approx. 5 to 10 pages)
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
**Module title**  
Special Food and Animal Feed

**Abbreviation**  
o8-LMC-SpezLM-122-m01

**Module coordinator**  
holder of the Chair of Food Chemistry

**Module offered by**  
Institute of Pharmacy and Food Chemistry

**ECTS**  
8

**Method of grading**  
numerical grade

**Only after succ. compl. of module(s)**  
--

**Duration**  
1 semester

**Module level**  
graduate

**Other prerequisites**  
By way of exception, additional prerequisites are listed in the section on assessments.

### Contents

Chemical constituents, production and analysis of particular foods and feeds, chemical changes caused in those foods and feeds during processing, storage and transportation as well as pharmacological and toxicological effects of their normal and abnormal constituents. Thorough knowledge of the chemistry of food constituents and methods for the analysis of particular foods and feeds including the interpretation of measured data with statistical methods.

### Intended learning outcomes

Students are able to independently select relevant analysis parameters for the assessment of functional foods and feeds as well as foods/feeds containing genetically modified organisms, to independently select appropriate analytical methods, to independently apply those methods as well as to interpret the measured data with appropriate statistical methods. They are able to assess the foods/feeds on the basis of the analytical values.

### Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- o8-LMC-SpezLM-1-122: V + V + P (no information on SWS (weekly contact hours) and course language available)
- o8-LMC-SpezLM-2-122: S (no information on SWS (weekly contact hours) and course language available)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

**Assessment in module component o8-LMC-SpezLM-1-122: Special Food and Animal Feed Special Food and Animal Feed Special Food and Animal Feed**

- 6 ECTS, Method of grading: numerical grade
- assessment: a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) and lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)
- Language of assessment: German or English
- Other prerequisites: In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter a and No. II 2. Letter e of Annex 1 of APOLmCh.

**Assessment in module component o8-LMC-SpezLM-2-122: Seminar of Animal Feed**

- 2 ECTS, Method of grading: numerical grade
- written report (approx. 20 pages) and talk (approx. 20 minutes)
- Other prerequisites: In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter a and No. II 2. Letter e of Annex 1 of APOLmCh.
miker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 2. Letters c and d of Annex 1 of APOlmCh.

<table>
<thead>
<tr>
<th>Allocation of places</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referred to in LPO I (examination regulations for teaching-degree programmes)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Module title</td>
<td>Abbreviation</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Tutoring 1 (practical course)</td>
<td>08-WRM1-102-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean of Studies Chemie (Chemistry)</td>
<td>Faculty of Chemistry and Pharmacy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

The module offers the opportunity to learn correct presenting and mediating scientific questions by giving a tutorial attendant to a lecture at the faculty of chemistry and pharmacy.

**Intended learning outcomes**

The students are able to adequately prepare and present scientific questions, and to guide students in lower semesters.

**Courses**

<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ü (no information on SWS (weekly contact hours) and course language available)</td>
</tr>
</tbody>
</table>

**Method of assessment**

<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</th>
</tr>
</thead>
</table>
| preparation of materials for demonstrations and exercises
Language of assessment: German or English |

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
### Tutoring 2 (practical course)

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
<th>ECTS</th>
<th>Method of grading</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutoring 2 (practical course)</td>
<td>08-WRM2-102-m01</td>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

**Module coordinator**: Dean of Studies Chemie (Chemistry)

**Module offered by**: Faculty of Chemistry and Pharmacy

**ECTS**: 5

**Duration**: 1 semester

**Module level**: graduate

**Other prerequisites**: --

**Contents**

The module offers the opportunity to learn correct presenting and mediating scientific questions by giving a tutorial attendant to a lecture at the faculty of chemistry and pharmacy.

**Intended learning outcomes**

The students are able to adequately prepare and present scientific questions, and to guide students in lower semesters.

**Courses** (type, number of weekly contact hours, language — if other than German)

Ü (no information on SWS (weekly contact hours) and course language available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

preparation of materials for demonstrations and exercises

Language of assessment: German or English

**Allocation of places**: --

**Additional information**: --

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
<th>ECTS</th>
<th>Method of grading</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Studies (long)</td>
<td>08-APM2-102-m01</td>
<td>10</td>
<td>Only after succ. compl. of module(s)</td>
<td>Faculty of Chemistry and Pharmacy</td>
</tr>
</tbody>
</table>

**Module coordinator**

Erasmus programme coordinator Chemie (Chemistry)

**Faculty of Chemistry and Pharmacy**

**Contents**

The internship is carried out at universities abroad and can be embedded within offered study programs (e.g., Erasmus). The content requirements should comply with those of the electives of the Chemistry Master program at the University of Würzburg (what has to be ascertained in advance under discussion with the module coordinator).

**Intended learning outcomes**

The students are familiar with working methods at universities abroad. Besides professional competences they have also acquired language and social skills.

**Courses**

(type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

report (2 pages); proof of having completed lab course

Language of assessment: German or English; language of the respective placement country where required

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Internship 2 (Long)</td>
<td>08-LMC-WPZ2-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Work placement in the field of food production or analysis.

**Intended learning outcomes**

Students have become familiar with the occupation of a food chemist.

**Courses** (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written report (approx. 5 to 10 pages)
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

Additional information on module duration: 1 to 2 semesters.

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title | Abbreviation
--- | ---
Food Law, Tobacco Law, Feed Law and Tangented Law | 08-LMC-LMRecht-122-m01

Module coordinator: holder of the Chair of Food Chemistry
Module offered by: Institute of Pharmacy and Food Chemistry

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

Duration: 2 semester
Module level: graduate

Other prerequisites: In accordance with Section 2 Subsection 2 Sentence 2 APOLMch (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 2. Letters h, i and j of Annex 1 of APOLMch.

Contents

German contents available but not translated yet.


Intended learning outcomes

German intended learning outcomes available but not translated yet.

Die Studierenden identifizieren Lebensmittel, kosmetische Mittel, Futtermittel, Bedarfsgegenstände und Tabakerzeugnisse und ziehen die angemessenen Rechtsgrundlagen zu Ihrer Beurteilung heran. Sie kennen die jeweils zuständigen nationalen und internationalen Strukturen für alle Lebensmittelrechtlichen Fragestellungen. Sie verfügen über die theoretischen Kenntnisse um ein Qualitätsmanagementsystem aufzubauen und unter "Good Laboratory Practice"-Standards zu arbeiten.

Courses (type, number of weekly contact hours, language — if other than German)
V + V (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German or English

Allocation of places
--

Additional information
--

Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Module title
Foreign Studies (short)

### Abbreviation
08-APM1-102-m01

### Module coordinator
Erasmus programme coordinator Chemie (Chemistry)

### Module offered by
Faculty of Chemistry and Pharmacy

### ECTS
5

### Method of grading
Only after succ. compl. of module(s)

### (not) successfully completed
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
Admission prerequisite to assessment: regular attendance of placement.

### Contents
The internship is carried out at universities abroad and can be embedded within offered study programs (e.g. Erasmus). The content requirements should comply with those of the electives of the Chemistry Master program at the University of Würzburg (what has to be ascertained in advance under discussion with the module coordinator).

### Intended learning outcomes
The students are familiar with working methods at universities abroad. Besides professional competences they have also acquired language and social skills.

### Courses
(type, number of weekly contact hours, language — if other than German)
P (no information on SWS (weekly contact hours) and course language available)

### Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

report (2 pages); proof of having completed lab course

Language of assessment: German or English; language of the respective placement country where required

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Internship 1 (Short)</td>
<td>08-LMC-WPZ1-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Work placement in the field of food production or analysis.

**Intended learning outcomes**

Students have become familiar with the occupation of a food chemist.

**Courses** (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written report (approx. 5 to 10 pages)
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
Module title: Toxicology of Food
Abbreviation: 08-LMC-LMTox-122-m01

Module coordinator: holder of the Chair of Food Chemistry
Module offered by: Institute of Pharmacy and Food Chemistry

ECTS: 9
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 2 semester
Module level: graduate
Other prerequisites: In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter d and 2. Letter g of Annex 1 of APOLmCh.

Contents:
- Harmful effects of natural and synthetic chemicals, toxicodynamics (receptor theory, dose-response relationships); toxicokinetics (absorption, distribution, biotransformation, elimination); classification of toxicants and their biological effects; toxicology and animal testing; methods for toxicity testing (acute, subacute, subchronic, chronic, carcinogenic, mutagenic and teratogenic toxicity tests); principles of epidemiological studies; risk assessment and definition of exposure limits and guidelines.

Intended learning outcomes:
- Students are familiar with the toxicokinetics and modes of toxic action of relevant natural and synthetic chemicals as well as with methods for toxicity testing. They have learned the principles of epidemiological studies. They know the steps involved in a risk assessment and in the definition of exposure limits and guidelines. Students are able to independently select an appropriate test for the solution of a given food toxicological question and are able to perform that test.

Courses (type, number of weekly contact hours, language — if other than German):
V + V + P (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus):
- assessment: a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) and lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)
- a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) and lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)
- Language of assessment: German or English

Allocation of places: --

Additional information: --

Referred to in LPO I (examination regulations for teaching-degree programmes): --
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Thesis</td>
<td>08-LMC-MA-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>numerical grade</td>
<td>08-LMC-LMCF and, where applicable, specific modules/module components as specified by supervisor (cf. Section 15 Subsection 2 FSB (subject-specific provisions)).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Students search for literature on a problem in food chemistry, select appropriate methods for solution of that problem and use those methods in the laboratory. They prepare a written account of their work and deliver an academic presentation on their findings.

**Intended learning outcomes**

Students independently investigate a problem in food chemistry.

**Courses** (type, number of weekly contact hours, language — if other than German)

C (no information on SWS (weekly contact hours) and course language available)

**Method of assessment** (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

written thesis (approx. 40 pages) and presentation (poster or talk, approx. 20 minutes), weighted 4:1 Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module: Development and Validation of Methods in Food Analysis

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development and Validation of Methods in Food Analysis</td>
<td>08-LMC-MEV-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter a and No. II 2. Letters a and c of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

### Contents

Theory and practice of the development as well as the statistical validation of methods for the quantitative analysis of foods, tobacco products, cosmetics, consumer goods and feeds.

### Intended learning outcomes

Students are able to establish and validate a method for the quantitative analysis of foods, tobacco products, cosmetics, consumer goods and feeds.

### Courses (type, number of weekly contact hours, language — if other than German)

V + P + Ü (no information on SWS (weekly contact hours) and course language available)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)

Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
### Laboratory Courses in Nutritional Biochemistry

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Courses in Nutritional Biochemistry</td>
<td>08-LMC-BCdE2-122-m01</td>
</tr>
</tbody>
</table>

#### Module coordinator
holder of the Chair of Food Chemistry

#### Module offered by
Institute of Pharmacy and Food Chemistry

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter c of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

#### Contents
Lab course in biochemistry: cell fractionation and characterisation, enzyme kinetics.

#### Intended learning outcomes
Students have developed the ability to independently perform homogenisations and fractionations of cells and tissues as well as to use biochemical methods (e.g. determination of enzyme kinetics) to characterise the fractions.

#### Courses (type, number of weekly contact hours, language — if other than German)
P + P (no information on SWS (weekly contact hours) and course language available)

#### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
workshop: theoretical and practical assignments to be completed in groups of up to 3 candidates, including Vor-Testate and Nachtestate (pre and post-experiment exams) and lab course assessment components: Vor-Testate and Nachtestate (pre and post-experiment exams, approx. 15 minutes each), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)
Language of assessment: German or English

#### Allocation of places
--

#### Additional information
--

#### Referred to in LPO I (examination regulations for teaching-degree programmes)
--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Evaluation of Food</td>
<td>08-LMC-WPZ3-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>--</td>
</tr>
</tbody>
</table>

**Contents**

Assessment of the safety of foods on the basis of their constituents.

**Intended learning outcomes**

Students are able to assess the safety of foods in accordance with applicable guidelines for food safety assessment.

**Courses (type, number of weekly contact hours, language — if other than German)**

Ü (no information on SWS (weekly contact hours) and course language available)

**Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)**

written report (approx. 5 to 10 pages)  
Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I (examination regulations for teaching-degree programmes)**

--
**Module title**
Technology of Foodstuffs including water for human use, Cosmetics, Commodities, Tobacco Products, and Animal Feed

| Abbreviation | 08-LMC-LMT-122-m01 |

**Module coordinator**
holder of the Chair of Food Chemistry

**Module offered by**
Institute of Pharmacy and Food Chemistry

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

**Duration**
1 semester

**Module level**
graduate

**Other prerequisites**
In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter e and No. II 2. Letters b and d of Annex 1 of APOLmCh.

**Contents**
Basic unit operations in the production and processing of foods, tobacco products pursuant to Section 1 Subsection 1 Sentence 1 No. 2, cosmetics, consumer goods and feeds; e.g. mechanical operations (cleaning, sorting, comminution, sieving, mixing, filtering, expressing, emulsification, centrifugation, extracting), thermal operations (heating, cooling and freezing, concentration, drying, distillation), biotechnological processes (e.g. fermentation, acidification).

**Intended learning outcomes**
Students know all relevant processes in food technology as well as examples of their application.

**Courses**
V + E (no information on SWS (weekly contact hours) and course language available)

**Method of assessment**
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) and written report (approx. 2 to 5 pages)

Language of assessment: German or English

**Allocation of places**
--

**Additional information**
--

**Referred to in LPO I**
(examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Analysis</td>
<td>08-LMC-UA-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 2. Letter g of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

**Contents**

Toxic effects on the ecosystem; risk assessment and definition of exposure limits and guidelines. (Bio)monitoring methods, environmental chemistry and analysis in biotic and abiotic environments.

**Intended learning outcomes**

Students are able to answer retrospective questions in environmental analysis, selecting appropriate (bio)monitoring and analytical methods and performing statistical analyses of data. They are able to assess the ecotoxicity of pollutants and their fate in the environment by performing experiments in the lab.

**Courses**

(V + V + Ü (no information on SWS (weekly contact hours) and course language available)

**Method of assessment**

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) and written report (approx. 3 to 6 pages)

Language of assessment: German or English

**Allocation of places**

--

**Additional information**

--

**Referred to in LPO I**

(examination regulations for teaching-degree programmes)

--
# Module Title

**Analysis and Evaluation of Foodstuffs, Cosmetics, Commodities, Tobacco Products, and Animal Feed: practical course**

### Abbreviation

08-LMC-LMCP-122-m01

### Module Coordinator

holder of the Chair of Food Chemistry

### Module Offered by

Institute of Pharmacy and Food Chemistry

### ECTS

5

### Method of Grading

Only after succ. compl. of module(s)

### Duration

1 semester

### Module Level

graduate

### Other Prerequisites

In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter a and No. II 2. Letters a and c of Annex 1 of APOLmCh.

## Contents

Methods for the analysis of foods, tobacco products, cosmetics, consumer goods and feeds including the interpretation of measured data with statistical methods.

## Intended Learning Outcomes

Students are able to select and apply an appropriate method for the analysis of particular foods, tobacco products, cosmetics, consumer goods or feeds. They are able to interpret the measured data with statistical methods as well as to assess the foods, tobacco products, cosmetics, consumer goods or feeds conclusively.

### Courses

( type, number of weekly contact hours, language — if other than German)

0 + P (no information on SWS (weekly contact hours) and course language available)

### Method of Assessment

( type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

- workshop: theoretical and practical assignments to be completed in groups of up to 3 candidates, including Vor- testate (pre-experiment exams) and Nachtestate (post-experiment exams) and/or lab course assessment components: Vor- testate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)

Language of assessment: German or English

### Allocation of Places

--

### Additional Information

Additional information on module duration: 1 to 2 semesters.

**Referred to in LPO I** (examination regulations for teaching-degree programmes)

--
### Module title
Courses related to Food Chemistry outside of the Natural Sciences

### Abbreviation
08-LMC-WPZ5-122-m01

### Module coordinator
holder of the Chair of Food Chemistry

### Module offered by
Institute of Pharmacy and Food Chemistry

### ECTS
5

### Method of grading
Only after succ. compl. of module(s)

### (not) successfully completed
--

### Duration
1 semester

### Module level
graduate

### Other prerequisites
Please consult with course advisory service.

### Contents
This module gives students the opportunity to transfer credits from chemistry-related courses that are offered by other Faculties and are not explicitly included in the academic regulations for their programmes. Students MUST consult with their course advisors in advance.

### Intended learning outcomes
Students have developed the knowledge and skills taught in the courses attended by them.

### Courses
V (no information on SWS (weekly contact hours) and course language available)

### Method of assessment
(a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or successful completion as certified by the lecturer

### Language of assessment
German or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO I
(examination regulations for teaching-degree programmes)

--
### Module title
Courses related to Food Chemistry within the Natural Sciences

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>08-LMC-WPZ6-122-m01</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(not) successfully completed</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>Please consult with course advisory service.</td>
</tr>
</tbody>
</table>

### Contents
This module gives students the opportunity to transfer credits from chemistry-related courses that are offered by other Faculties and are not explicitly included in the academic regulations for their programmes. Students MUST consult with their course advisors in advance.

### Intended learning outcomes
Students have developed the knowledge and skills taught in the courses attended by them.

### Courses
<table>
<thead>
<tr>
<th>(type, number of weekly contact hours, language — if other than German)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
</tr>
</tbody>
</table>

### Method of assessment
<table>
<thead>
<tr>
<th>(type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>assessment: a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) or successful completion as certified by the lecturer</td>
</tr>
</tbody>
</table>

Language of assessment: German or English

### Allocation of places
--

### Additional information
--

### Referred to in LPO 1
(examination regulations for teaching-degree programmes)
--

---

Master’s with 1 major, 120 ECTS credits

JMU Würzburg • generated 23-Aug-2021 • exam. reg. data record Master (120 ECTS) Lebensmittelchemie - 2012

page 26 / 29
## Advanced Laboratory Courses in the Toxicology of Food

<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Laboratory Courses in the Toxicology of Food</td>
<td>o8-LMC-WPV1-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter d and No. II 2. Letter g of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

### Contents

Cell culturing techniques, extended toxicity tests (e.g. genotoxicity testing, reporter gene assays).

### Intended learning outcomes

Students are able to culture adherent and suspension cells independently. They are able to perform toxicity tests under guidance in order to determine the biological potential of constituents of foods, cosmetics, consumer goods or tobacco products.

### Courses (type, number of weekly contact hours, language — if other than German)

P (no information on SWS (weekly contact hours) and course language available)

### Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)

Lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)

Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--
<table>
<thead>
<tr>
<th>Module title</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Laboratory Course in Environmental Analysis</td>
<td>08-LMC-WPV2-122-m01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Module offered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>holder of the Chair of Food Chemistry</td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 1. Letter d and No. II 2. Letter g of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

## Contents
Trace analysis by gas or liquid chromatography-mass spectrometry.

## Intended learning outcomes
Students are able to perform qualitative and quantitative analyses of environmental contaminants or residues in environmental samples using common mass spectrometric methods.

## Courses (type, number of weekly contact hours, language — if other than German)
P (no information on SWS (weekly contact hours) and course language available)

## Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module can be chosen to earn a bonus)
lab course assessment components: Vortestate and Nachtestate (pre and post-experiment exams, approx. 15 minutes), assessment and documentation of practical performance (approx. 10 pages) and written report (approx. 5 to 10 pages)
Language of assessment: German or English

## Allocation of places
--

## Additional information
--

## Referred to in LPO I (examination regulations for teaching-degree programmes)
--
### Subdivided Module Catalogue for the Subject Food Chemistry

**Module title**: Cosmetics, Commodities and Tobacco Products  
**Abbreviation**: 08-LMC-KBT-122-m01

<table>
<thead>
<tr>
<th>Module coordinator</th>
<th>Holder of the Chair of Food Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Institute of Pharmacy and Food Chemistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>numerical grade</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 semester</td>
<td>graduate</td>
<td>In accordance with Section 2 Subsection 2 Sentence 2 APOLmCh (Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker, Regulation on the training and examination of state-certified food chemists) in connection with No. II 2. Letter a of Annex 1 of APOLmCh.</td>
</tr>
</tbody>
</table>

### Contents

Chemical constituents, production and analysis of cosmetics, consumer goods and tobacco products. Chemical changes caused in those products during processing, storage and transportation as well as pharmacological and toxicological effects of their normal and abnormal constituents.

### Intended learning outcomes

Students are familiar with the chemistry of cosmetics. They are able to use methods for the analysis of cosmetics, consumer goods and tobacco products as well as to interpret measured data with statistical methods.

### Courses

V + V (no information on SWS (weekly contact hours) and course language available)

### Method of assessment

(a) 1 to 3 written examinations (1 written examination: approx. 90 minutes or approx. 120 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or (b) oral examination of one candidate each (approx. 20 minutes) or (c) oral examination in groups (groups of 2, approx. 30 minutes)

Language of assessment: German or English

### Allocation of places

--

### Additional information

--

### Referred to in LPO I (examination regulations for teaching-degree programmes)

--