



Module Catalogue

for the Subject

FOKUS Chemistry

as a Master's with 1 major
with the degree "Master of Science"
(120 ECTS credits)

Examination regulations version: 2013
Responsible: Faculty of Chemistry and Pharmacy

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The subject is divided into

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Content and Objectives of the Programme

The Master's program in FOKUS Chemistry is offered by the Faculty of Chemistry and Pharmacy of the JMU as a fundamentally-oriented course with the degree of "Master of Science" (M.Sc.), in the context of a consecutive Bachelor's and Master's degree program.

The Master's course prepares students for scientific as well as doctoral work in chemistry and the eventual award of the degree Dr. rer. nat. The aim of the training is to provide students with in-depth knowledge of scientific work in the research and application of chemistry and the associated basic concepts. Through the education and training of analytical thinking, students should acquire the ability to independently apply the basic knowledge obtained earlier in their Bachelor studies and to transfer it to, and later familiarize themselves with, a wide variety of new tasks.

Through the thesis, students should show that they are able to deal with an experimental or theoretical task in a thematically-limited extent using known methods and from a scientific point of view. The Master's examination intends to determine whether the candidate or the candidate has an overview of the relationships in chemistry, and has the ability to apply the learned scientific methods. It allows the acquisition of an internationally comparable degree in the field of chemistry and provides a professional qualification to prepare for future work in research and development.

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)):

10-Jul-2013 (2013-82)

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.

Compulsory Courses "Additional Qualifications"

(10 ECTS credits)

Module title		Abbreviation
Advanced discussion of hot topics in contemporary chemical research		o8-FOM-HOT-132-m01
Module coordinator		Module offered by
degree programme coordinator FOKUS Chemie (Chemistry)		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--
Duration	Module level	Other prerequisites
2 semester	graduate	--
Contents		
This module gives students the opportunity to explore a hot topic in chemical research in depth, deliver a presentation on that topic that is tailored to their audience as well as to engage in discussion of that topic.		
Intended learning outcomes		
Students have developed the ability to explore hot topics in chemical research, gather information, find and review relevant literature as well as to prepare and deliver presentations on those topics that are tailored to their audience.		
Courses (type, number of weekly contact hours, language – if other than German)		
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 is creditable for bonus)		
talk (approx. 15 minutes) with discussion (approx. 15 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Latest topics of current chemical research		o8-FOM-TOP-132-m01
Module coordinator		Module offered by
degree programme coordinator FOKUS Chemie (Chemistry)		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
5	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
This module gives students the opportunity to explore a topical issue in chemical research in depth, deliver a presentation on that issue that is tailored to their audience as well as to engage in discussion of that issue.		
Intended learning outcomes		
Students have developed the ability to read and understand scientific literature as well as to deliver presentations on what they have read that are tailored to their audience.		
Courses (type, number of weekly contact hours, language — if other than German)		
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 is creditable for bonus)		
talk (approx. 15 minutes) with discussion (approx. 15 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Thesis

(30 ECTS credits)

Module title		Abbreviation
Master's Thesis FOKUS Chemie		o8-FOKUS-MA-132-m01
Module coordinator		Module offered by
head of the research group offering the module		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
30	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	Three focuses in the Schwerpunkte (focuses) area of mandatory electives must have been successfully completed in whole (60 ECTS credits).
Contents		
Researching and writing on a defined problem within a given time frame and adhering to the principles of good scientific practice.		
Intended learning outcomes		
Students are able to conduct research on a defined topic/problem, adhering to the principles of good scientific practice, and to present the results of their work in written form.		
Courses (type, number of weekly contact hours, language – if other than German)		
no courses assigned		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
Master's thesis (approx. 30 to 60 pages) as well as talk with discussion (approx. 30 minutes total), weighted 9:1		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Compulsory Electives

(80 ECTS credits)

Compulsory Electives Focuses

(50 ECTS credits)

Students must select no less than three focuses.

Focus Inorganic Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented inorganic chemistry		o8-ACFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Inorganic Chemistry"		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in inorganic chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in inorganic chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in inorganic chemistry		o8-ACFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Inorganic Chemistry"		Institute of Inorganic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in inorganic chemistry. The focus will be on working under inert atmospheres, purification methods, spectral analysis and crystallography. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced synthesis and analytical methods in inorganic chemistry in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Organic Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented organic chemistry		o8-OCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Organic Chemistry"		Institute of Organic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in organic chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in organic chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in organic chemistry		o8-OCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Organic Chemistry"		Institute of Organic Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in organic chemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced synthesis and analytical methods in organic chemistry in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Physical Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented physical chemistry		o8-PCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Physical Chemistry"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in physical chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in physical chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in physical chemistry		o8-PCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Physical Chemistry"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
This module gives students the opportunity to enhance their skills in advanced techniques and methods in physical chemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.		
Intended learning outcomes		
Students are able to use advanced techniques in physical chemistry and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.		
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 is creditable for bonus)		
Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Biochemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented biochemistry		o8-BCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Biochemistry"		Chair of Biochemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in biochemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in biochemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in biochemistry		o8-BCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Biochemistry"		Chair of Biochemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in biochemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced synthesis and analytical methods in biochemistry in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Functional Materials

(20 ECTS credits)

Module title		Abbreviation
Research oriented course in functional materials		o8-FMFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Functional Materials"		Chair of Chemical Technology of Material Synthesis
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in functional materials.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in functional materials. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in functional materials		o8-FMFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Functional Materials"		Chair of Chemical Technology of Material Synthesis
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in functional materials. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced synthesis and analytical methods in materials science in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Homogeneous Catalysis

(20 ECTS credits)

Module title		Abbreviation
Research oriented homogeneous catalysis course		o8-HKFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Homogeneous Catalysis"		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in homogeneous catalysis.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in homogeneous catalysis. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
--		
Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
--		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in homogeneous catalysis		o8-HKFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Homogeneous Catalysis"		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in homogeneous catalysis. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.		
Intended learning outcomes		
Students are able to use advanced synthesis and analytical methods in homogeneous catalysis in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.		
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 is creditable for bonus)		
Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Medicinal Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented pharmaceutical/medicinal chemistry		o8-MCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Medicinal Chemistry"		Institute of Pharmacy and Food Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in medicinal chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in medicinal chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in pharmaceutical/medicinal chemistry		o8-MCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Medicinal Chemistry"		Institute of Pharmacy and Food Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
This module gives students the opportunity to enhance their skills in advanced techniques and methods in medicinal chemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.		
Intended learning outcomes		
Students are able to use advanced techniques in medicinal chemistry and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.		
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 is creditable for bonus)		
Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Supramolecular Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented supramolecular chemistry		o8-SCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Supramolecular Chemistry"		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in supramolecular chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in supramolecular chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language — if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in supramolecular chemistry		o8-SCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Supramolecular Chemistry"		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced synthesis and analytical methods in supramolecular chemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced synthesis and analytical methods in supramolecular chemistry in the lab and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Focus Theoretical Chemistry

(20 ECTS credits)

Module title		Abbreviation
Research oriented theoretical chemistry		o8-TCFM1-132-m01
Module coordinator		Module offered by
focus point coordinator "Theoretical Chemistry"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Three selected research-based courses exploring advanced topics in theoretical chemistry.		
Intended learning outcomes		
Students are able to explain and analyse selected research-oriented topics in theoretical chemistry. They are able to situate the topics covered in different courses within a broader context.		
Courses (type, number of weekly contact hours, language – if other than German)		
S + S + 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 is creditable for bonus)		
oral examination of one candidate each (approx. 45 minutes) Language of assessment: German, English		
Allocation of places		
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Additional information		
Additional information on module duration: 1 to 2 semesters.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Research oriented practical course in theoretical chemistry		o8-TCFM2-132-m01
Module coordinator		Module offered by
focus point coordinator "Theoretical Chemistry"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>This module gives students the opportunity to enhance their skills in advanced methods in theoretical chemistry. Students will be expected to conduct their work in the lab independently, write a lab report documenting their findings and deliver a presentation.</p>		
Intended learning outcomes		
<p>Students are able to use advanced methods in theoretical chemistry and to interpret their findings. They are able to write a lab report documenting their findings and deliver a presentation.</p>		
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 is creditable for bonus)		
<p>Research lab course in two 4-week blocks: a) 2 pieces of practical work with 2 lab reports (approx. 20 pages each) and b) 2 talks with discussion (approx. 15 minutes each). Research lab course in one 8-week block: c) one piece of practical work with lab report (approx. 40 pages) and d) talk with discussion (approx. 30 minutes) Language of assessment: German, English</p>		
Allocation of places		
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Additional information		
Additional information on module duration: block lab course: two 4-week blocks or one 8-week block.		
Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Compulsory Electives Additional Qualifications (ECTS credits)

Module title		Abbreviation
Advanced FOKUS Foreign Studies		o8-FOMA-132-m01
Module coordinator		Module offered by
degree programme coordinator FOKUS Chemie (Chemistry)		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
20	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	A supervisor from the Faculty, who must be an authorised examiner, is to be chosen prior to the placement.
Contents		
A placement in industry. The contents of the placement should correspond to the contents of a lab course offered in the context of the Bachelor's programme in Chemistry (180 ECTS credits); please consult with the competent coordinator in advance.		
Intended learning outcomes		
Students are familiar with procedures and processes used in industry. They have acquired subject-specific skills as well as language and interpersonal 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 is creditable for bonus)		
log (approx. 30 pages) and talk with discussion (approx. 20 minutes); weighted 3:1 Language of assessment: German, English		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Advanced FOKUS Industrial work experience		o8-FOMI-132-m01
Module coordinator		Module offered by
degree programme coordinator FOKUS Chemie (Chemistry)		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
20	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	A supervisor from the Faculty, who must be an authorised examiner, is to be chosen prior to the placement.
Contents		
A placement in industry. The contents of the placement should correspond to the contents of a lab course offered in the context of the Master's programme in Chemistry (120 ECTS credits); please consult with the competent coordinator in advance.		
Intended learning outcomes		
Students are familiar with procedures and processes used in industry. They have developed both subject-specific and interpersonal 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 is creditable for bonus)		
log (approx. 30 pages) and talk with discussion (approx. 20 minutes); weighted 3:1 Language of assessment: German, English		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		

Module title		Abbreviation
Advanced research lab course		o8-FOMF-132-m01
Module coordinator		Module offered by
degree programme coordinator FOKUS Chemie (Chemistry)		Faculty of Chemistry and Pharmacy
ECTS	Method of grading	Only after succ. compl. of module(s)
20	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
This module gives students the opportunity to explore a research topic and apply the methods commonly used in the discipline in question.		
Intended learning outcomes		
Students are able to explore a specific research topic and present the results of their work in a written report or oral presentation.		
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 is creditable for bonus)		
log (approx. 30 pages) and talk with discussion (approx. 20 minutes); weighted 3:1 Language of assessment: German, English		
Allocation of places		
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Additional information		
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Workload		
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Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) FOKUS Chemistry (2013)		