

# Articles of Admission to the Master's Degree Program in Pharmaceutical Research at the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin

## Preamble

On the basis of § 14 para. 1 no. 2 of the Partial Order (test model) of 27 October 1998 (Freie Universität's *Mitteilungen* no. 24/1998) in connection with § 10 of the law regarding admission to higher education in the State of Berlin within master's programs subject to limited place numbers (Higher Education Admission Act of Berlin – BerlHZG) in the version of the announcement of the new version of 18 June 2005 (GVBl. p. 393), last amended on 26 June 2013 (GVBl. p. 198), in connection with § 10 para. 5 sentence 2 of the law regarding higher education in the State of Berlin (Higher Education Act of Berlin – BerlHG) in the version of 26 July 2011 (GVBl. p. 378), the Faculty Council of the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin has passed\* the following Articles on 18. November 2015):

## § 1 Scope of Validity

The Articles regulate admission to study pursuant to § 10 para. 5 of BerlHG and the selection process for the awarding of places pursuant to § 10 of BerlHZG for the master's program in Pharmaceutical Research in the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin (master's program). It relates to a consecutive master's program pursuant to § 23 para. 3 no. 1 letter (a) of BerlHG.

## § 2 Program Places and Application

- (1) The number of places available on the master's program is determined for every admission date in the Admission Regulations of Freie Universität Berlin.
- (2) Applications for admission must be made in writing to the Department of Application and Admission at the Presidium of Freie Universität Berlin. Applications for admission made solely through fax, email or other electronic media are not valid.
- (3) The deadline for admissions ends on 15 January for the summer semester and on 31 May for the winter semester in each year.
- (4) Applications for admission must be accompanied by an officially certified higher education graduation certificate pursuant to § 3 para. 1.
- (5) Admission to the master's program can also be applied for, if the higher education graduation certificate referred to in § 3 para. 1 cannot yet be submitted due to missing examination credits and it is still expected that the higher education graduation certificate referred to in § 3 para. 1 will be awarded on the basis of previous study performance, in particular prior examination performance, before the start of the master's program and that the conditions for admission to the master's program, which are required due to § 3 para. 2, 3, will also be fulfilled on time. In particular this expectation will be accorded, if at least  $\frac{2}{3}$  of the entire workload has been assessed, an application for the degree dissertation has been made and that start of work on the dissertation has been set such that completion is possible before the start of the master's program. The application will be subject to the selection process with an average grade, which will be determined on the basis of prior examination performance contained in the current proof of performance and assessment (transcript) to be provided by the applicant. In this case therefore, the result of the higher education graduation certificate will not be considered.
- (6) Freie Universität Berlin is not required to determine the facts of a case ex officio.

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\*) These Articles have been confirmed by Presidium of Freie Universität Berlin on 7 January 2016 and the senate department responsible for higher education on 23. March 2016.

### **§ 3 Admission Requirements**

- (1) The admission requirement for the master's program is a German or comparable foreign higher education graduation certificate in pharmacy, food chemistry, medical chemistry, human biology, medicine, veterinary medicine or a related degree in the natural sciences with a standard study period of at least eight semesters or comprising of 240 credit points (CP).
- (2) Applicants, who's higher education graduation certificate was not achieved at an educational institute where English was the language of study, must demonstrate English language ability sufficient to meet the requirements of Level B 2 of the Common European Framework for languages (GER).
- (3) Applicants are freed from proving ability in the German language.
- (4) The equivalence of the presented proof for fulfilment of the admission requirements is decided by the Examination Committee of the Faculty of Biology, Chemistry and Pharmacy responsible for the master's program.

### **§ 4 Selection Quota, Selection Criteria, Organisational Issues**

- (1) 80 % of the remaining degree places available after consideration of advance quotas are awarded through the selection process regulated by these Articles (higher education quota). 20 % of degree places are awarded on the basis of § 10 para. 1 sentence 1 no. 2 of BerlHZG. The quota of § 10 para. 1 sentence 3 of BerlHZG totals 5 %.
- (2) Selection for the master's program is performed according to both:
  1. The grade of the qualification, which is determined on the basis of the examination result of the previous degree program (§ 10 para. 2 no. 1 of BerlHZG)
  2. The result of an interview to be undertaken with the applicant pursuant to § 5, which should impart an understanding of his/her suitability and motivation for the master's program (§ 10 para. 2 no. 6 of BerlHZG).
- (3) Selection pursuant to para. 2 no. 1:  
On the basis of the grade upon graduation pursuant to § 3 para. 1, 85 % of the degree places being awarded pursuant to para. 1 shall be awarded.
- (4) Selection pursuant to para. 2 no. 2:  
The remaining 15 % of the degree places being awarded pursuant to para. 1 shall be awarded according to the grade upon graduation pursuant to § 3 para. 1 and the result of the selection interview pursuant to § 5. The selection interview is weighted at 40 %. The number of candidates at the selection interview is limited to three times the stated 15 %. The applicable benchmark in this case is given by the grade of qualification, which is determined on the basis of the result of the examination of the previous degree program.

### **§ 5 Selection Interview**

- (1) At least two selection reviewers will be appointed for every selection process by the Dean of the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin to conduct the selection interviews on behalf of the Presidium of Freie Universität Berlin. They must be authorised examiners within the master's program and be subject to a primary employment relationship with Freie Universität Berlin. The use of representatives is prohibited.
- (2) Applicants who have submitted application documents in full and on time will be invited by a selection reviewer to the selection interviews in writing, with disclosure of venue and time. The invitation is deemed timely, if it is sent at least 10 workdays prior to the respective selection interview.
- (3) Selection interviews are conducted individually with each applicant, last approximately 20 minutes and are not public.
- (4) Over the course of the selection interviews, notes will be made that contain the relevant grounds for the assessment of the applicant. The grade of the selection interview is performed

according to § 18 Rahmenstudien- und -prüfungsordnung of Freie Universität Berlin (RSPO). In event of failure to participate in the selection interview a grade of 5.0 (insufficient) will be awarded.

(5) After completion of the selection interview, a list of rankings will be drawn up for selection on the basis of the results pursuant to § 4 para. 2 no. 2, para. 4. The entries in the list of rankings are comprised of the grade upon graduation pursuant to § 3 para. 1 (graduation grade - GG) weighted at six-tenths (60 %) and the grade of the selection interview (interview grade - IG) weighted at four-tenths (40 %) and calculated precisely to one decimal place according to the following formula:  $0.6*GG + 0.4*IG$ . If a tie in rankings exists after drafting the list of rankings, then the ranking order shall be determined pursuant to § 8a of BerlHZG.

### **§ 6 Admission Decision**

(1) The decision regarding selection is made on the basis of the determined rankings by the Department of Application and Admission of the Presidium of Freie Universität Berlin.

(2) Selected applicants will receive an admission certificate in which a deadline for acceptance, in writing, of a place on the degree program and for matriculation is set. In event of failure to observe this deadline, the degree place will be re-awarded.

(3) Applicants selected on the basis of their proof of performance and assessment (transcripts), will be offered conditional admission and may register, temporarily, for matriculation into the first semester. In principle, the higher education graduation certificate stated in § 3 para. 1 must be submitted by the end of the first semester and fulfilment of the associated requirements must be proven. If proof is not provided on time, admission will be revoked.

(4) Applicants who are not awarded admission will receive a rejection certificate with justification.

(5) The documents submitted during the selection process will be retained until the respective decision is final and, in the case of a legal dispute, until a legal decision has been issued.

### **§ 7 Legal Validity**

These Articles take effect on the day of their publication in Freie Universität's *Mitteilungen* (Official Journal of Freie Universität Berlin).

# **Study and Examination Regulations for the Master's Degree Program in Pharmaceutical Research at the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin**

## **Preamble**

On the basis of § 14 para. 1 no. 2 of the Partial Order (test model) of Freie Universität Berlin dated 27 October 1998 (Freie Universität's *Mitteilungen* no. 24/1998) the Faculty Council of the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin has, on 18 November 2015, passed the following study and examination regulations for the master's degree in pharmaceutical research at the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin:<sup>1</sup>

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<sup>1</sup> These Regulations was confirmed by the Presidium of Freie Universität Berlin on 17.12.2015.

## **§ 1**

### **Scope of Validity**

(1) These regulations govern the goals, content and structure of the master's degree in pharmaceutical research at the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin (master's degree program) and supplement the requirements and processes for achieving study and examination requirements (credits) within the master's degree program as contained in the framework study and examination regulations of Freie Universität Berlin (FSER).

(2) It relates to a consecutive master's degree pursuant to § 23 para. 3 no. 1 letter (a) of the law regarding higher education in the State of Berlin (Higher Education Act of Berlin – BerlHG) of 26 July 2011 (GVBl. p. 378), which is structured on a research basis.

## **§ 2**

### **Learning Outcomes**

(1) Graduates possess advanced and deep research-related knowledge in five subject areas of pharmacy (pharmaceutical/medical chemistry, pharmaceutical biology, clinical pharmacy, pharmacology/toxicology, pharmaceutical technology). They are more highly specialised in one particular pharmaceutical subject area. But they are also familiar with research areas outside of pharmacy and therefore possess interdisciplinary competence. They are familiar with the terminology, peculiarities, capabilities and limits of pharmaceutical methods. They can apply their specialist knowledge to new problem areas and situations, even if they are related within an interdisciplinary context to pharmaceutical research. They possess knowledge in selected areas and practical skills corresponding to the current state of research. They analyse and critically assess pharmaceutical problems, develop independent strategies for solutions and estimate their effects within an all-round context. They use knowledge from different areas and pursue interdisciplinary approaches.

(2) The graduates possess both independence and team working skills in scientific work as well as interdisciplinary competence and key skills. The graduates can act independently and acquire missing knowledge on their own. They formulate hypotheses, verify them critically and represent them in debate. They can present pharmaceutical content, research projects and results both orally and in writing, and in the English language, both to specialists and non-specialists alike. They have acquired a modern understanding of gender and diversity as well as team, communication and transfer skills.

(3) The graduates are qualified to undertake doctoral research in the life sciences as well as vocational activities within pharmaceutical research, development, production and analysis. The master's degree program also prepares students to acquire further qualifications, e.g. for starting a business or the employment-related areas of the patent system, knowledge management, marketing and sales, education, management, the IT sector, consulting and the media.

## **§ 3**

### **Degree Contents**

(1) Pharmacy is the central discipline within the molecular life sciences, concerned with the development, production, effect, use and other aspects of pharmaceuticals under consideration of the relevant objects from the areas of gender and diversity. Pharmacy is a very interdisciplinary subject and tackles all questions concerning pharmaceuticals in its five subdisciplines of pharmaceutical/medical chemistry, pharmaceutical biology, clinical pharmacy, pharmacology/toxicology and pharmaceutical technology. The master's degree program in Pharmaceutical Research is an innovative degree within the natural sciences which focuses on modern pharmaceutical research. Until now, Freie Universität Berlin has been the only institution throughout Germany to offer the degree. The master's program uniquely prepares students for research and development activities within the pharmaceutical industry or at scientific institutions thanks to its excellent environment, which is strongly oriented within the natural sciences. The degree program offers contemporary research areas, interdisciplinary

teaching on the boundaries of modern pharmaceutical development and the involvement of experts from the pharmaceutical sector.

(2) The degree program imparts the ability to tackle scientific problems independently. Researching the current state of knowledge is part of the scientific work in the modules. Problems, solutions and results are represented using oral and written presentations and planning and discussed critically. The degree also covers controversial discussions regarding methods and the results of research. Gender and diversity aspects are considered, where suitable within the relevant subject areas, in particular during collaboration within the research groups at the Institute for Pharmacy, which are overwhelmingly international in nature.

#### **§ 4**

##### **Student Counselling and Study Guidance**

(1) General student counselling is provided by the central student counselling facility and psychological counselling at Freie Universität Berlin.

(2) Student counselling and guidance is provided by the university teaching staff that offer teaching on the master's degree program within regular office hours.

#### **§5**

##### **Examination Committee**

The Examination Committee appointed for the master's degree by the Faculty Council of the Faculty of Biology, Chemistry and Pharmacy at Freie Universität Berlin is responsible for organising examinations and the remaining tasks stated within the FSER.

#### **§ 6**

##### **Minimum Study Period**

The minimum study period is two semesters.

#### **§ 7**

##### **Structure and Organisation; Credit Scheme**

(1) Within the master's degree, a total of 60 credit points (CP) must be achieved. The master's degree is organised as follows:

1. One compulsory area totalling 20 CP, which contains the following compulsory modules that must be passed:

- Module: Current Areas of Pharmaceutical Research (5 CP),
- Module: Key Skills in Pharmaceutical Research (5 CP) and
- Module: Pharmaceutical Research Project in one of the scientific workgroups (10 CP). The module "Pharmaceutical Research Project" is undertaken in one of the following research areas:
  - Pharmaceutical/medical chemistry
  - Pharmaceutical biology
  - Clinical pharmacy
  - Pharmacology/toxicology
  - Pharmaceutical technology

The Examination Committee decides upon application, whether a research project may be undertaken outside of the Institute of Pharmacy of Freie Universität Berlin.

2. One elective area totalling 10 CP. The elective area allows students to deepen their specialist training and acquire qualifications outside of the field of pharmacy, depending on their interests and vocational goals. Modules not totalling more than 10 CP may be selected from the following elective subjects: chemistry, biochemistry, biology,

pharmacy, physics and veterinary medicine. A list of recommended modules will be published by the Examination Committee in good time and in a suitable form.

3. The master's thesis, including presentation of results, totals 30 CP.

(2) The Module Description in Annex 1 provides information concerning the admission requirements, the contents and learning outcomes, the teaching and learning events, the study schedule, the forms of active participation, the examination performance that must be achieved during the course of the degree, details regarding obligatory regular participation in teaching and learning events, the credit points allocated to each module, the minimum duration of study and the frequency within which modules are offered. Please refer to the study and examination regulations of the respective degree course for the elective modules that may be selected from other degree courses.

(3) The example study plan in Annex 2 provides information about the recommended study schedule within the master's degree.

## **§ 8**

### **Teaching and Learning Forms**

(1) The following teaching and learning forms are offered within the master's degree:

1. Seminars (S) serve to impart knowledge regarding a well-defined subject area and the acquisition of skills, the ability to approach problems independently, the presentation and critical discussion of results. The preferred working forms consist of seminar talks based on teaching material, specialist literature and sources as well as group work.
2. Lectures (L) provide an overview of a large area of study within the field and its methodical and theoretical principles or knowledge of a specialist subject area and its research problems; they also deal critically with the state of biological research and serve, therefore, to represent the general relationships and theoretical foundations. Presentation by the respective lecturer is the preferred form of teaching. Short interactions and collective workshop elements are also possible.
3. Workshops (W) allow the acquired, yet still new initial learning structures, content and abilities to be properly supported through repetition. Practice allows learned material to be honed further and prevents it from being forgotten. Exercises provide a secure foundation for content in memory and generalise knowledge so that it can be applied to new situations. The preferred working forms consist of the implementation of biological experiments, completing exercises, the evaluation of results and the discussion of solutions within groups.
4. Safety-relevant practical workshops (sP) are practical exercises in which safety-relevant materials, work techniques and processes are employed. Intensive instruction and guidance of the students is the preferred form of teaching.

(2) The teaching and learning forms pursuant to para. 1 may be employed in blended learning arrangements. In this way, the on-campus degree is combined with electronic internet-based media (E-learning). Selected teaching and learning activities are offered via the central E-learning applications of Freie Universität Berlin and performed by the students, individually or in groups, either independently and/or with supervision. Blended learning may be employed either during the implementation phase (exchange and discussion of learning materials, solution of exercises, intensification of communication between students and teachers) or in the post-learning phase (learning outcome checks, transfer support).

## § 9 Master's Thesis

(1) The master's thesis is intended to demonstrate that the student is capable of developing research questions within the field of pharmacy independently, to work on them using scientific methods, to present the results suitably with consideration given to the state of current research, to classify them amongst current areas of discussion and to document them in writing and orally.

(2) Students are admitted to the master's thesis upon application, once they have demonstrated during application that they were enrolled in the master's degree at Freie Universität Berlin.

(3) Proof of fulfilment of the requirements pursuant to para. 2 must be submitted with the application for admittance to the master's thesis, furthermore a declaration from examining teaching staff demonstrating willingness to provide supervision is also required. The competent Examination Committee will decide about the application. If a declaration concerning willingness to provide supervision of a master's thesis pursuant to sentence 1 is not submitted, then the Examination Committee will appoint a supervisor. Upon application, the master's thesis can also be completed outside of Freie Universität Berlin, so long as an examining member of the master's degree program acts as a co-supervisor. The Examination Committee decides about admittance to completion of the master's thesis outside of Freie Universität Berlin.

(4) The Examination Committee awards the title of the master's thesis, in consultation with the supervisor. The subject and task must be structured so that the work can be completed within the deadline for completion. The issue of the title and deadline will be subject to record.

(5) The written part of the master's thesis totals about 15,000 words excluding associated data. The deadline for completion of the master's thesis totals six months to be performed simultaneously with the modules. It can be completed in either the German or English language. If a student is prohibited from working on the master's thesis for more than three months, subject to mitigating circumstances, the Examination Committee will decide whether the master's thesis must be started again. If the Examination Committee demands that the master's thesis shall be submitted again, the examination requirement of the master's thesis applies as not undertaken.

(6) The start of the deadline period is the issue date of the title by the Examination Committee. The title can be declined within the first four weeks and, in this case, will be deemed not issued. Upon submission of the master's thesis, the student must confirm in writing that he or she has produced the master's thesis independently and has not used any sources or aids other than those stated in the text. The master's thesis must be submitted in three bound copies as well as an electronic copy in Portable Document Format (PDF). The text of the PDF file must be machine readable, not only contain graphics and must not have limited file permissions.

(7) The master's thesis shall be graded within four weeks of submission by two examiners appointed by the Examination Committee with written justification. One of the examiners should be the supervisor of the master's thesis. At least one of the two grades must come from an examiner who is a fully employed member of the Faculty of Biology, Chemistry and Pharmacy at Freie Universität Berlin.

(8) After creation and acknowledgment of the assessment, a date for the oral presentation of results will be set and issued to the student in suitable form. The presentation, lasting approx. 20 minutes is followed by a discussion of results (approx. 15 minutes). The presentation will be graded by the two examiners.

(9) The grade for the written component of the master's thesis is weighted at 2/3 and the grade for the oral component of the master's thesis is weighted at 1/3 of the final grade for the master's thesis.

(9) The master's thesis is passed, if the final grade for the master's thesis is at least "sufficient" (4.0).



## **§ 10**

### **Repeating Examinations**

- (1) In event that the master's thesis is not passed, it maybe retaken once; other examination failed during the course of the degree maybe re-taking three times.
- (2) Examinations graded with "sufficient" (4.0) or better, may not be re-taken.

## **§ 11**

### **Study Abroad**

- (1) Students are recommended to spend some time studying abroad. Whilst studying abroad, credits should be earned that count towards the master's degree. Credit transfers regarding the master's thesis are prohibited.
- (2) Study abroad must be based on an agreement between the student, the Chairperson of the relevant Examination Committee of the master's degree and the relevant office at the host university concerning the duration of study abroad, the study that must be performed whilst abroad, which must be equivalent to the level of study within the master's degree, as well as the allocated credit points. Credit earned according to the agreement will be transferred.
- (3) It is recommended to complete the period of study abroad within the first semester of the degree.
- (4) The Institute for Pharmacy of the Faculty of Biology, Chemistry and Pharmacy of Freie Universität Berlin supports students in planning and preparation for study abroad.

## **§ 12**

### **Graduation**

- (1) The requirement for graduation is completion of the required work pursuant to §§ 7 and 9.
- (2) Graduation is prohibited, if the student while enrolled at another university has not passed module or examination requirements within the same degree course or in a module, which is identical or similar to one in the master's degree that must be completed and is required for determination of the final grade, or if he or she is involved in a pending examination process.
- (3) The application to determine graduation must be accompanied by proof that the requirements pursuant to para. 1 have been fulfilled as well as an assurance that none of the cases pursuant to para. 2 apply to the applicant. The competent Examination Committee will decide about the application.
- (4) On the basis of the passed examinations, the degree title of Master of Science (M. Sc.) shall be awarded. The student shall receive a certificate and a diploma (Annexes 3 and 4), as well as a diploma supplement (English and German versions). Furthermore a certificate supplement detailing the individual modules and their components (transcript) will be provided. Upon application, supplementary English versions of the certificate and diploma will be enclosed.

## **§ 13**

### **Legal Validity**

These Regulations take effect on the day of their publication in Freie Universität's *Mitteilungen* (Official Journal of Freie Universität Berlin).

## **Annex 1: Module Descriptions**

### Explanations:

The following module descriptions define, unless other regulations are referred to, the following for each module within the master's degree

- The name of the module
- The module convenor
- The requirements for admission to the module
- The contents and learning outcomes of the module
- The teaching and learning forms of the module
- The recommended amount of study hours required by the student for successful completion of the module
- The forms of active participation
- The forms of examination
- The degree of compulsory participation
- The credit points allocated to the module
- The minimum duration of the module
- The frequency with which the module is offered
- The relevant applications of the module

In particular, the details concerning the amount of study time include the following

- Active participation during the context of on-campus study phase
- The amount of time required to complete minor tasks during the context of on-campus study phase
- The time for independent preparation and post-learning work
- Completion of study units during the online study phases
- Direct preparation for examinations
- The examination periods

The time information concerning self-study (including preparation and post-learning study, examination preparation) represent guidelines and are intended to aid the student manage his/her schedule with respect to the modules. The details regarding the degree of commitment correspond with the number of credit points allocated to the respective module as a guide for the level of student study required to successfully complete the module. One credit point represents 30 hours.

If regular compulsory participation is required for the respective teaching and learning forms, it also forms a requirement for acquisition of the credit points allocated to the respective modules, in addition to active participation in teaching and learning forms and the successful performance during examinations. Regular participation is given when the student is present at a minimum of 85 % of the on-campus study phase of a teaching and learning form of a module. If there is no obligation for regular participation in teaching and learning forms of a module, it is still highly recommended. Teaching staff are prohibited from demanding compulsory attendance for teaching and learning forms, for which participation is only recommended in the following.

The associated module examination must be completed, so long as one exists, for every module. Required modules are completed with just one examination requirement (module examination). The module examination should be based on the learning outcomes and verifies attainment of the goals of the module. The scope of the examination is limited to the extent required to achieve this. For modules that include alternative forms of examination, the form of examination employed in the respective semester is decided by the module convenor by the first lecture / course meeting at the latest.

Active and, if required, regular participation in teaching and learning forms as well as the successful completion of the examination requirements of a module are pre-requisites for attainment of the credit points allocated to respective module. In the case of modules without a module examination, active participation and regular participation in learning and teaching forms are requirements for the attainment of the credit points allocated to the respective module.

<b>Module: Current Areas of Pharmaceutical Research</b>				
<b>University/department:</b> Freie Universität Berlin/Faculty of Biology, Chemistry & Pharmacy				
<b>Module convenor:</b> module lecturers				
<b>Admission requirements:</b> none				
<b>Learning outcomes:</b> The students have the opportunity to tackle current problems within pharmaceutical research, to discuss them and to understand and reflect upon them at a level that extends beyond the boundaries of the learning material. They can independently research scientific information and literature with particular consideration given to the current international specialist literature, classify new research results and evaluate them within the context of the scientific literature. They can present current scientific work to a specialist audience, represent the content and discuss it critically.				
<b>Contents:</b> The students deepen their understanding, independently, of the lecture material presented by the workgroups concerning current areas of pharmaceutical research from pharmaceutical biology, pharmaceutical and medical chemistry, pharmaceutical technology, clinical pharmacy and pharmacology. Reflection and presentation of selected subject areas is performed by the students within the context of seminar presentations and optional semester papers.				
<b>Teaching and learning forms</b>	<b>Attendance</b> (weekly semester hours= WSH)	<b>Forms of active participation</b>	<b>Study time</b> (hours)	
Lectures	1	-	Attendance L Preparation and post-learning study L	
Seminars	2	Presentation and discussion of current research areas	15	
			Attendance S Preparation and post-learning study S	30 30
			Examination preparation and examination	60
<b>Module examination</b>		Oral presentation (approx. 20 minutes) or written essay (8 to 10 pages)		
<b>Module language</b>		English (or German, if appl.)		
<b>Compulsory regular participation</b>		Lectures: participation recommended / Seminars: yes		
<b>Total study time</b>		150 hours	5 CP	
<b>Duration of the module</b>		One semester		
<b>Module frequency</b>		Every winter semester		
<b>Applicability</b>		Master's degree in Pharmaceutical Research		

<b>Module: Key Skills in Pharmaceutical Research</b>			
<b>University/department:</b> Freie Universität Berlin/Faculty of Biology, Chemistry & Pharmacy			
<b>Module convenor:</b> module lecturers			
<b>Admission requirements:</b> none			
<b>Learning outcomes:</b> The students possess fundamental knowledge within the area of scientific work. They are proficient with the underlying methods and are familiar with the use of computer-assisted data acquisition, evaluation and presentation techniques.			
<b>Contents:</b> The students will study aspects of scientific theory and ethical questions within research; researching sources, researching literature and citation methods are discussed and applied. Statistical methods and their fundamental principles are expounded and applied to specific pharmaceutical research questions. The students will learn the foundations of research planning and project management, as well as strategies for data management, the presentation of results and manuscript drafting. They assess research work and the quality of the acquired data and discuss attained goals critically.			
<b>Teaching and learning forms</b>	<b>Attendance</b> (weekly semester hours= WSH)	<b>Forms of active participation</b>	<b>Study time</b> (hours)
Lectures	2	-	Attendance L Preparation and post-learning study L
Seminars	1	Completion of exercises, contributions in discussions	Attendance S Preparation and post-learning study S
<b>Module examination</b>		None	
<b>Module language</b>		English (or German, if appl.)	
<b>Compulsory regular participation</b>		Lectures: participation recommended / Seminars: yes	
<b>Total study time</b>		150 hours	5 CP
<b>Duration of the module</b>		One semester	
<b>Module frequency</b>		Every summer semester	
<b>Applicability</b>		Master's degree in Pharmaceutical Research	

<b>Module: Pharmaceutical Research Project</b>				
<b>University/department:</b> Freie Universität Berlin/Faculty of Biology, Chemistry & Pharmacy				
<b>Module convenor:</b> module lecturers				
<b>Admission requirements:</b> none				
<b>Learning outcomes:</b> The students will be familiar with the scientific method of research within the specialist field of the workgroup. They will be able to solve problems scientifically pertaining to the current level of research at a suitable level and present and discuss their findings orally and in writing according to the recognised standards of the field. They will integrate themselves within the workgroup, which is generally made up of members with vastly different cultural backgrounds. They will be capable of working constructively within an international team and understanding gender and diversity-related issues.				
<b>Contents:</b> The students will work on a relevant project taken from the research areas of the supervising workgroup and under the personal supervision of a member of the workgroup. This includes research of scientific background, practical implementation of the project, presentation and critical discussion of results in a workgroup research seminar, which is generally in English, and written documentation of the project.				
<b>Teaching and learning forms</b>	<b>Attendance</b> (weekly semester hours= WSH)	<b>Forms of active participation</b>	<b>Study time</b> (hours)	
Seminars	1	Presentation and discussion	Attendance S Preparation and post-learning study S	15 10
Practical workshops	2	Implementation and recording experiments	Attendance P Self-study at practical workshop on-site Preparation and post-learning study P  Examination preparation and examination	30 165 30 50
<b>Module examination</b>		Written documentation of the project (approx. 10 pages)		
<b>Module language</b>		English (or German, if appl.)		
<b>Compulsory regular participation</b>		Yes		
<b>Total study time</b>		300 hours	10 CP	
<b>Duration of the module</b>		Eight weeks (all day); in event of visiting other lectures, seminars etc. at the same time, the duration increases accordingly		
<b>Module frequency</b>		Every semester		
<b>Applicability</b>		Master's degree in Pharmaceutical Research		

**Annex 2: Example Study Plan for the Master’s Degree in Pharmaceutical Research**

Semester	Modules			
Semester 1 (30 CP)	Module: Current areas of pharmaceutical research  5 CP	Module: Key skills in pharmaceutical research  5 CP	Elective module  10 CP	Module: pharmaceutical research project  10 CP
Semester 2 (30 CP)	Master’s thesis with presentation of results  30 CP			

**Annex 3: Degree Transcript  
(Sample)**



FREIE UNIVERSITÄT BERLIN  
FACULTY OF BIOLOGY, CHEMISTRY & PHARMACY

CERTIFICATE

**Mrs/Mr [name/surname]**

born on [day/month/year] in [place of birth]

has successfully completed the master's degree in

**Pharmaceutical Research**

on the basis of the Examination Regulations of 18 November 2015 (FU-Mitteilungen No. 10/2016) with the final grade

**[Grade in number and text form]**

and demonstrated attainment of the required 60 credit points.

Performance in examinations was graded as follows:

<b>Study area(s)</b>	<b>Credit points</b>	<b>Grade</b>
Study phase	30 (...)	n,n
Master's thesis with presentation of results	30 (30)	n,n

The master's thesis was titled: [XX] – and was supervised by: [XX]

Berlin, [day/month/year]

(Stamp)

The Dean

The Chairperson of the Examination  
Committee

Grade scale: 1.0 – 1.5 very good; 1.6 – 2.5 good; 2.6 – 3.5 satisfactory; 3.6 – 4.0 sufficient; 4.1 – 5.0 insufficient

Ungraded marking: BE – passed; NB – not passed

The credit points conform to the European Credit Transfer and Accumulation System (ECTS).

A part of the performance is ungraded; the credit point number within brackets represents the extent of the assessed performance differentiated with a grade, which affects the final grade.

**Annex 4: Degree Certificate (Sample)**



FREIE UNIVERSITÄT BERLIN  
FACULTY OF BIOLOGY, CHEMISTRY & PHARMACY

CERTIFICATE

**Mrs/Mr [name/surname]**

born on [day/month/year] in [place of birth]

has successfully completed the master's degree in

**Pharmaceutical Research**

In accordance with the Examination Regulations of 18 November 2015 (FU-Mitteilungen No. 10/2016)

the degree of

**Master of Science (M. Sc.)**

Is hereby awarded.

Berlin, [day/month/year]

(Stamp)

The Dean

The Chairperson of the Examination Committee