

This is a translated version of the approved Examination and Study Regulations of the Master degree programme Pharmaceutical Biotechnology at Hamburg University of Applied Sciences. The German version of the Examination and Study Regulations of this Master degree programme dated 31/07/2014 is legally binding.

**Programme-Specific Examination and Study Regulations
of the Master Degree Programme Pharmaceutical Biotechnology
at
Hamburg University of Applied Sciences
Dated 31/07/2014**

On 31 July 2014, the President of Hamburg University of Applied Sciences approved the following "Programme-Specific Examination and Study Regulations of the Master Degree Programme Pharmaceutical Biotechnology" at Hamburg University of Applied Sciences, which were agreed by the Faculty Council on 10 July 2014. This approval is based on Section 108 (1) sentence 3 and (4) sentence 3 of the "Hamburgisches Hochschulgesetz" [Hamburg Higher Education Act] - HmbHG - of 18 July 2001 (HmbGVBl [Hamburg Law Gazette]. p.171), as amended on 8 July 2014 (HmbGVBl. p. 269). The agreement of the Faculty Council is based on Section 91 (2) 1 HmbHG.

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§ 1 General provisions

These Examination and Study Regulations regulate the course of the Master degree programme Pharmaceutical Biotechnology. Additionally, the "General Examination and Study Regulations for Bachelor and Master Degree Programmes at the Faculties of Engineering, Science and Life Sciences and Computer Science at Hamburg University of Applied Sciences" (GESR-ESLC-BM) apply as last amended.

§ 2 Academic degree (§ 3 GESR-ESLC-BM)

- (1) Upon completion of the programme, the University awards the academic degree "Master of Science (M.Sc.)".
- (2) The academic degree is awarded if a total of 300 credit points (CP) are demonstrated. The 300 credit points are to be acquired in the preceding course and in this Master degree programme.

§ 3 Course duration and structure of the programme (§§ 2,9 GESR-ESLC-BM)

- (1) The course includes 90 credit points; the standard course duration amounts to one-and-a-half years.
- (2) The second year of the programme includes the Master thesis (30 CP).

§ 4 Courses and examinations (§§ 8,9,10 GESR-ESLC-BM)

- (1) The programme consists of nine modules, including the Master thesis. All the classes offered and the pertinent examinations are detailed in the appendix.
- (2) Requirements for sitting modules and/or individual courses can be stipulated in the respective module descriptions.
- (3) Upon application, the students can replace a module and instead of this module select technically sensible classes from the remaining Master courses offered by HAW Hamburg or from such courses offered by other universities. These classes are summarised in a replacement module. The module "Biopharmaceutical Engineering" and the "Master Thesis" module cannot be replaced. The replacement module must offer at least the same number of credit points as the module to be replaced; accreditation can take place only according to the amount of credit points offered by the module to be replaced. The courses summarised in the replacement module must contain at least one examination credit. The module grade of the replacement module results according to the weighting of the examination credits of the replacement courses according to credit points. After the consent of the course advisor has been obtained, the choice requires the approval of the examination committee as well as the consent of the competent body of the other department or the other university. The choice can be changed only once and such a change requires the consent of the course advisor and the approval of the examination committee. In this case, the examination attempts are transferred to the new composition. If all repetition opportunities are used up, a change is no longer permitted.

§ 5 Language (§ 10 GESR-ESLC-BM)

The classes and examinations are held mainly in English. Individual classes can be held in German. In this case, this is to be made known in a suitable way prior to the beginning of the course, for example by means of a notice. The pertinent examinations are then also to be held in German.

§ 6 Master thesis (§ 16 GESR-ESLC-BM)

- (1) General regulations regarding the Master thesis are established in GESR-ESLC-BM (§ 16).
- (2) The time allowed for working on the Master thesis is 6 months.
- (3) The Master thesis can be begun when 45 credit points of the first year of the programme have been obtained.

§ 7 Overall grade

(1) The weighting of the module grades among each other is shown in the table in the appendix (column no. 10 "Final grade proportion in %"). The overall grade is the result of the formation of the weighted average of the module grades according to their weighting.

(2) If a module consists of several examination credits, the module grade is calculated based on the assessments of the individual examination credits weighted by the credit points.

§ 8 Process and certificate

Upon application to the chairing member of the examination committee, the certificate is issued if the following requirements are met:

1. The requirements of Sections 15 (6) and 30 GESR-ESLC-BM are fulfilled.
2. In conjunction with the first programme, a total of 300 credit points have been acquired.

§ 9 Entry into force, going out of force

(1) These Examination and Study Regulations shall become effective on the day of their publication in the Hamburg University of Applied Sciences Gazette (Hochschulanzeiger). They shall apply to all students who begin their course of study as of the winter semester 2015/16.

(2) The Examination and Study Regulations of the Master degree programme Pharmaceutical Biotechnology at Hamburg University of Applied Sciences dated 04/ 02/ 2010 shall go out of force at the time indicated in sentence 1. They shall continue to apply to all students who began their course of study prior to the winter semester 2015/16 until the end of the summer semester 2017.

Hamburg, 31/ 07/ 2014
Hamburg University of Applied Sciences

Appendix: Study plan

1	2	3	4	5	6	7	8	9	10
No	Module	Semester	ECTS-Credits	Course	Class type	H	Examination type	Examination form	Final grade proportion in %
1	Biopharmaceutical Engineering	1,2	6	Biopharmaceutical Engineering	TgS	2	EC	HP, WE or OE	5.74
				Biopharmaceutical Engineering Practice	Ex	2	SC	EAC	
2	Purification Techniques	1,2	8	Purification Techniques	TgS	2	EC	HP, WE or OE	5.74
				Purification Techniques - Special Course	Lab	1	SC	LC	
				Good Manufacturing Practice	TgS	2	SC	CS	
3	Pharmaceutical Technology	1, 2	6	Pharmacology	TgS	2	EC	HP, WE or OE	11.47
				Drug Development and Formulation	TgS	2			
4	Cell Culture Systems	1,2	10	Cell Culture Techniques	TgS	3	EC	HP, WE or OE	7.65
				Cell Culture Techniques Special Course	Lab	2	SC	LC	
				Hosts and Expression Systems	TgS	2	SC	Pap	
5	Bioanalytics	1,2	9	Off-line and At-line Analytics	TgS	2	EC	HP, WE or OE	11.47
				Biochemical Analytics	TgS	2	EC	OE	
				Bioassays	TgS	2	SC	Pap	
6	Bioprocess Automation	1,2	7	Bioprocess Automation	TgS	2	EC	HP, WE or OE	5.74
				Bioprocess Automation Special Course	Lab	3	SC	LC	
7	Process Simulation	1,2	7	Analysis, Modeling and Simulation of Bioprocesses	TgS	2	EC	HP, WE or OE	5.74
				Analysis, Modeling and Simulation of Biopr Practice	Ex	2	SC	EAC	
8	Biopharmaceutical Research	1,2	7	Laboratory Project	P	4	EC	PJ	11.47
				Research Seminar	S	1	SC	Pap	
9	Master Thesis	3	30	Master Thesis		24	EC	Mas	35.00

TgS: Taught seminar, Lab: Lab work, S: Seminar, Ex: Exercise, P: Project, SC: Study credit (non-graded), EC: Examination credit (graded);

WE: Written examination, OE: Oral examination, Pap: Paper, HP: Home project, PJ: Project completion, LC: Lab work completion, EAC: Exercise attendance certificate, CS: Case study, Mas: Master thesis