Research-guided Teaching

Representation in the Biology Curriculum

Research-guided Teaching

Can be subdivided into 4 groups based on the role of the student:

- ***Research-communicating teaching***: oriented towards the transfer of research results/content. The student is recipient.
- ***Research-oriented teaching***: focuses on the communication of established research methods, scientific attitudes, i.e. good scientific practice, ways how to gain knowledge – ideally those applied by the individual teacher. The student is again recipient and is introduced in the research process and learns how to solve a scientific problem.

Research-guided Teaching

- ***Research-accompanying teaching***: support and instruction of students during their investigations, for example discussion of experimental protocols or project/seminar papers. The student is the producer of a particular result/research content.
- ***Research-based teaching***: involves students actively in the research process, i.e. research projects. The student again is a producer of research results which are focusing on a particular research problem/testing of a hypothesis.

Research-communicating teaching

Modul BB 11.1 Schwerpunktsetzung „Molekulare Biologie und Zellbiologie“									
Molekulare Biologie und Zellbiologie I (Strukturbiologie, Bioanalytik und Bioinformatik)	4	UV	6					6	
Molekulare Biologie und Zellbiologie II (Physiologie)	4	UV	6					6	
Molekulare Biologie und Zellbiologie III (Zelluläre Kommunikation und molekulare Signalübertragung)	4	UV	6						6
Molekulare Biologie und Zellbiologie IV (Zellbasierende Assays)	4	UV	6						6
Zwischensumme Modul BB 11.1	16		24					12	12
Modul BB 11.2 Schwerpunktsetzung „Ökologie und Evolution“									
Ökologie und Evolution I (Evolution, Biodiversität und Systematik der Pflanzen)	4	UV	6					6	
Ökologie und Evolution II (Evolution, Biodiversität und Systematik der Tiere)	4	UV	6					6	
Ökologie und Evolution III (Terrestrische Ökologie – Terrestrische Ökosysteme)	4	UV	6						6
Ökologie und Evolution IV (Aquatische Ökologie – Aquatische Ökosysteme)	4	UV	6						6
Zwischensumme Modul BB 11.2	16		24	0	0	0	0	12	12

Research-oriented teaching

- Bachelor thesis: either a state-of-the-art preparation of a specific topic or a small research project (10 ECTS) in the lab.

§ 8 Bachelorarbeit

(1) Bachelorarbeiten sind eigenständige schriftliche Arbeiten, die im Rahmen einer Lehrveranstaltung abzufassen sind und gemeinsam mit dieser beurteilt werden.

(2) Im Bachelorstudium Biologie ist eine Bachelorarbeit abzufassen.

(3) Eine Bachelorarbeit kann im Rahmen der folgenden Lehrveranstaltungen erstellt werden:

SE Bachelorarbeit Begleitseminar (1 ECTS)

Research-accompanying and –based teaching Master

- Compact moduls with higher specification of the content, but similar to bachelor moduls
- Obligatory practical training for 4 weeks in the facilities of 2 research groups. The students are engaged in a research project of the chosen group and gain methodological skills and field-specific knowledge as well as necessary soft skills, i.e. how to design experiments or how to write laboratory protocols, etc.

Research-accompanying and –based teaching Master

Modul MBM 11: Research Lab Training							
Training Lab I	4	UE	6			6	
Training Lab II	4	UE	6			6	
Zwischensumme Modul MBM 11	**8**		**12**			**12**	

Master thesis

- Is in general research-oriented and research-based teaching
- The student choses a topic within the specialisation field of the individual researcher and therefore receives optimal methodological expertise/skills and knowledge in the field
- The student works more or less independently and is guided by his/her supervisor, who helps to solve methodological problems, is a trouble-shooter and advises in depth on how to write manuscripts, etc.

Master thesis

- There are, however, differences between the disciplines: In non-experimental fields there is no continuous supervision requiring the supervisor to sign a document on the discussions concerning the progress of the master thesis.

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