

# Teaching in Biology for PhD students

June 2022

## 1. Basic studies (1<sup>st</sup> and 2<sup>nd</sup> year of the BSc curriculum)

**Pool: Teaching opportunities for all PhD students with the required skills**

<b>Quantitative methods:</b>	<b>Fall 2022</b>	<b>Spring 2023</b>
<p><u>Programming in Biology (BIO134):</u> Prerequisite: knowledge in Python. Tuesday and/or Thursday afternoon. One or two afternoons per week, including preparation and exam supervision (about 110h = 22 half days or 170h = 34 half days). <i>Contact: Dr. Maria Heimlicher (maria.heimlicher@jmls.uzh.ch)</i></p>	open	
<p><u>Data analysis in Biology (BIO144):</u> Prerequisite: knowledge in R, knowledge of (or interest in) applied statistics, in particular linear regression and related concepts. Thursday and/or Friday afternoon. One or two afternoons per week, including preparation and exam supervision (about 90h = 18 half days or 150h = 30 half days). <i>Contact: Prof. Dr. Owen Petchey (owen.petchey@ieu.uzh.ch)</i></p>		open
<b>Practical laboratory courses in Chemistry and Biochemistry:</b>		
<p><u>Chemistry:</u> Laboratory course CHE171 (basic Chemistry) for students of Biology and Biomedicine, one afternoon per week (150h including preparation). <i>Contact: Dr. Ulrike Wais (ulrike.wais@chem.uzh.ch)</i></p>		open
<p><u>Chemistry:</u> Laboratory courses CHE173 (basic Organic Chemistry) for students of Biology and Biomedicine, one afternoon per week (150h including preparation). <i>Contact: Dr. Ulrike Wais (ulrike.wais@chem.uzh.ch)</i></p>	open	
<p><u>Chemistry:</u> Laboratory course basic chemistry for medical students. Period: 5 weeks. A) Monday afternoon (3h), Tuesday afternoon (6h), Wednesday morning (3h) <b>or</b> B) Wednesday afternoon (3h), Thursday afternoon (6h), Friday afternoon (3h) workload 150 hours including preparation. Students with good knowledge of German preferred. <i>Contact: Dr. Ulrike Wais (ulrike.wais@chem.uzh.ch)</i></p>	open	
<p><u>Biochemistry:</u> Teaching contribution to laboratory courses BCH203, 205 and for medical students. <i>Contact: PD Dr. Sergio Gloor (sgloor@bioc.uzh.ch)</i></p>	open	open
<p><u>Klinische Chemie (Labormedizin):</u> Blutzuckermessung oder Blutgasanalytik an zwei verschiedenen Geräten und Vergleich der Messpräzision. Voraussetzung: medizinisch-analytisches Interesse und gute Deutschkenntnisse. Umfang: 30 Stunden, nachmittags im Dezember (Montag 12.12.22-Donnerstag 15.12.22) <i>Kontakt: Dr. Regula Steiner (regula.steiner@usz.ch)</i></p>	open	

<b>Practical courses in Molecular and Cell Biology:</b>		
<p><u>Classical and molecular genetics</u> (BIO111): Prerequisite: Basic knowledge in classical and/or molecular genetics. Course language is German. However, also assistants only speaking English are welcome. Practical consists of two parts. Part-1 (Classical genetics): 50h (12 half-days, including preparation), 3 weeks (Thursday full day, Monday and Friday afternoon). Part-2 (Molecular genetics): 43h (8 half-days, including preparation), 4 weeks (Thursday and Friday afternoon). Teaching can be done in one or in both parts. Additional teaching hours (up to 25) possible. <i>Contact: Dr. Monika Hediger (monika.hediger@imls.uzh.ch)</i></p>	<p>closed* 2022 2023</p> <p>open 2024</p> <p>*check the other course in genetics</p>	
<p><u>Cell Biology</u> (BIO112): Practical courses in <u>yeast</u> cell biology. Prerequisites: Basic knowledge of genetics and preferably simple light microscopy. The duties include two half days of teaching (10h) and one day of preparation/self-study (10h). A small introduction will be given in the week prior to the practical. Teaching days are probably in the first week of December. <i>Contact: Dr. Stephen Huisman (stephen.huisman@imls.uzh.ch)</i></p>	open	
<p><u>Cell Biology</u> (BIO112): Practical courses in <u>plant</u> cell biology. Prerequisites: Knowledge in plant cell biology, plant physiology and plant tissue anatomy necessary. 2 half days teaching, 2 half-days preparation / cleaning and one half-day repetition (content of the practicals and what to do). <i>Contact: Dr. Célia Jaeger-Baroux (cbaroux@botinst.uzh.ch)</i></p>	open	
<p><u>Molecular Biology Course for Biology and Medicine</u> (BIO 260) Prerequisite: practical knowledge of the basic molecular methods taught in this course week, including PCR, cloning, plasmid DNA handling, sequencing, cell culture and bacterial culture handling, protein purification using tag affinity, SDS-PAGE, Western. The course is organized in about 8 groups of two, course language is English. Period: Jan/Feb 2023. 50 teaching hours. <i>Contact: Dr. George Hausmann (george.hausmann@imls.uzh.ch)</i></p>		open
<p><u>Humangenetik für Medizinstudierende</u> Prerequisite: Basic knowledge in genetics and molecular techniques (DNA extraction, PCR). course language is German. 5 afternoons (25 teaching hours). <i>Contact: Dr. Daniel Bopp (daniel.bopp@imls.uzh.ch)</i></p>		open*
<b>Practical courses in Animal Behaviour (BIO122):</b>		
<p>Prerequisite: basic knowledge in data analysis. Course language German or English. The practical teaches methods how to register behaviour and analyse the data. Practical is organized in 3 groups (Monday group, Thursday group, Friday group), with three afternoons each (each afternoon corresponds to 5 hours). Total 9 afternoons/semester. <i>Contact: Prof. Dr. Marta Manser (marta.manser@ieu.uzh.ch)</i></p>		open
<b>Practical courses in Microbiology, Immunology, Virology (BIO138):</b>		
<p>Microbiology, 4 half days, <i>contact: Prof. Dr. Leo Eberl (leberl@botinst.uzh.ch)</i> Virology, 2 half days, <i>contact: Prof. Dr. Ben Hale (hale.ben@virology.uzh.ch)</i> Immunology, 2 half days, <i>contact: Prof. Dr. Ch. Münz (christian.muenz@uzh.ch)</i></p>	open	

<b>Concepts in Viruses and Infections (BIO137):</b>		
The broad goal for students is to understand science as it is practiced, rather than solving formulated problems from a textbook. <u>Students in small groups (eg 3 students) work out concepts under the guidance of a tutor.</u> Thereby students experience that science is an open-ended problem-solving activity, and research is not complete, no matter how many experiments have been conducted. Science is open to different viewpoints, formulates concepts and empirically tests hypotheses. <u>Tutors instruct students that science is all about the best arguments created in a logical and reproducible manner.</u> Importantly, students experience that science also involves persuasion, a deeply social process and an essential one for students to understand the nature of scientific theories and paradigm shifts. Time: 3 Wednesday afternoons in December. 30 teaching hours for the tutor (15 h preparation, 15 h presence time). <i>Contact: Prof. Dr. Urs Greber (urs.greber@imls.uzh.ch)</i>	open	
<b>Einführung in die Biomedizin (BME111)</b>		
Lesen, Korrektur und Beurteilung von Semesterarbeiten und Reviews zu grundlegenden physiologischen Themen. <b>Language: German.</b> Teil 1: Lesen/Korrektur Semesterarbeit: Ende Oktober, 8 Stunden Teil 2: Lesen/Korrektur Review Mitte-Ende November, 8 Stunden Teil 3: Beurteilung/Abschluss: Anfang-Mitte Dezember, 8 Stunden <i>Contact: phd.teaching@biol.uzh.ch</i>	open	
<b>Practical courses in Histology (BME 247):</b>		
Prerequisite: knowledge of microscopic anatomy of human organs and tissues at the level of light microscopy, ideally teaching assistants have themselves completed BIO145, BME247 or a similar course in histology. Language: German. 1 student needed. Presence teaching hours: 3x2, spring semester., Thu 8:00-9:30, 03.03.22 / 07.04.22 / 02.06.22. In addition up to 9 hours for answering of individual email questions asked by students working with the virtual microscope Biolucida. <i>Contact: Prof. Dr. David P. Wolfer (david.wolfer@anatomy.uzh.ch)</i>		open
<b>Courses in the Life science Zurich Learning Center (LSLC)</b>		
Courses for high school (Gymnasium) students focusing on modern themes in biology. The list of courses that can be taught is here: <a href="https://www.lifescience-learningcenter.uzh.ch/de/mittelschulen.html">https://www.lifescience-learningcenter.uzh.ch/de/mittelschulen.html</a> . If you choose to teach some of these courses, you have to commit to at least 50 hours of teaching for the LSLC (approximately 5 full day courses), plus 1/2 or 1 day of training. You will still have to teach at least 25 hours in Basic studies. For the LSLC courses, it is necessary to speak and understand <b>German</b> . For more information on this option, <i>Contact: Prof. Daniel Kiper: (danielch.kiper@lifescience.uzh.ch)</i>	open	open
<b>PHZH SEK I Exercises in Biology</b>		
Prerequisite: Knowledge on molecular biology (Master degree in biology, biochemistry or equivalent). <b>German</b> speaking preferred. Autumn semester, first 4 weeks, every Friday morning. Total amount of time needed: 8 half days (38h), including preparation. <i>Contact: Dr. Tinri Aegerter (tinri.aegerter@mls.uzh.ch)</i>	open	

<b>Exam supervision</b>	Jan/Feb 2023	June/July 2022
<p>Procedure: You apply for an open exam period → you get confirmation for being listed for further information → Dec. or May, you get an information mail (doodle) about dates / time of the exams → you give your opportunities (doodle) → you will be informed, if and which exams you supervise.</p> <p>Total for period: 5-25 hours</p> <p>Contact: <a href="mailto:phd.teaching@biol.uzh.ch">phd.teaching@biol.uzh.ch</a></p>	open	open

### Teaching opportunities mainly for PhD students of the respective field

<b>Practical courses in Physiology and Histology:</b>		
<p><u>Physiology:</u> Organised in BME682, package of 160h of teaching physiology to medical students, distributed over 4 semesters; restricted access. Contact: <a href="mailto:helene.girard@uzh.ch">Helen Girard (helene.girard@uzh.ch)</a></p>	open	open
<p><u>Histology:</u> Teaching histology to medical students. Only for PhD students associated with the Institute of Anatomy or with good knowledge in histology. Contact: <a href="mailto:natascha.lier@anatomy.uzh.ch">Natascha Lier (natascha.lier@anatomy.uzh.ch)</a></p>	open	open
<b>Practical courses of the VetSuisse Faculty:</b>		
<p>Teaching in the basic studies modules of the BSc in Veterinärmedizin. Contact: <a href="mailto:tomlutz@vetphys.uzh.ch">Prof. Dr. Thomas Lutz (tomlutz@vetphys.uzh.ch)</a></p>	open	open
<b>Exercises and practical courses in mathematics:</b>	<b>Fall 2022</b>	<b>Spring 2023</b>
<p>STA121 Introduction to Statistics MAT141 Linear Algebra für die Naturwissenschaften* MAT182 Analysis für die Naturwissenschaften* Tasks: Weekly correction of exercises and if offered midterm exam (solutions are provided); the exercises are uploaded by the students and corrected by the PhD on the tablet (own or provided); work load 100 hours. Possibility to help with the supervision and corrections of the exam (January); work load additional 20 hours. Prerequisites: having passed the corresponding (or an equivalent) course with very good marks. * Course language is German. However, also assistants only speaking English are welcome. Contact: <a href="mailto:assi.admin@math.uzh.ch">assi.admin@math.uzh.ch</a></p>	open	
<p>STA110 Probability STA120 Introduction to Statistics MAT183 Stochastik für die Naturwissenschaften* Tasks: Weekly correction of exercises and if offered midterm exam (solutions are provided); the exercises are uploaded by the students and corrected by the PhD on the tablet (own or provided); work load 100 hours. Possibility to help with the supervision and corrections of the exam (June); work load additional 20 hours. Prerequisites: having passed the corresponding (or an equivalent) course with very good marks. * Course language is German. However, also assistants only speaking English are welcome. Contact: <a href="mailto:assi.admin@math.uzh.ch">assi.admin@math.uzh.ch</a></p>		open

<b>Exercises and practical courses in physics:</b>		
Exercises and practical courses in PHY117, 118, 127, 128 and physics for medical students. A solid background in physics is required. Course language is mostly German but there are slots for assistants speaking only English as well. <i>Contact: Dr. Matthias Hengsberger (matthias.hengsberger@physik.uzh.ch)</i>	open	open
<b>Practical courses in other Biology modules (for students of the involved research groups):</b>		
BIO113 "Grundlagen der Evolutionsbiologie", BIO114 "Evolution und Biodiversität I", BIO115 "Human evolution", BIO118 "Prinzipien des Lebens", BIO121 "Evolution und Biodiversität II", BIO123 "Quantitative and Molecular Systems Biology", BIO125 "Development of multicellular systems", BIO128 "Vielfalt der Tiere", BIO129 "Vielfalt der Pflanzen", BIO131 "Form und Funktion der Pflanzen", BIO133 "Anthropologie", BIO141 "Ökologie", BIO142 "Entwicklungsbiologie", BIO143 "Neurobiologie", BIO148 "Paläontologie".	open	open

## 2. Block courses and special lectures

<b>Scientific Writing for Organismal Biologists (BIO556):</b>
Attendance during 7 lectures (2h each) and supervision of 2 students. Supervision includes detailed reviewing of thesis sections written by the course participants. Total commitment for the whole semester is around 60 hours. <b>Prerequisites:</b> high level of English and good writing skills. Preferably, TAs are in the last stage of their PhD and bring past experience with writing and publishing. More junior students are accepted if they possess well-developed writing skills. To apply, a letter of motivation (1 A4-page) including the contact of a referee is required. <i>Contact: Ursina Tobler (ursina.tobler@ieu.uzh.ch)</i>

### **Block courses**

- Ask your official or direct supervisor about your possibilities/duties to teach in block courses.
- Don't ask module leaders of block courses outside your research area. If there is need, you will be informed.

## 3. Requirements and procedure

Check on the form "*Planning teaching activities*".  
<http://www.biologie.uzh.ch/de/Studium/Doktorat.html> - 3

## 4. General Questions

Dr. Sabine Jacob, *phd.teaching@biol.uzh.ch*