Master of Science in Medical Biology
MD-PhD program

Propaedeutic studies

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1 General information

Credit points	• **Students entering the program in 2021 or earlier (date of matriculation as a PhD student)**: A minimum of **35 ECTS credit points** must be gained in the framework of the MD-PhD/MSc Medical Biology programs. • **Students entering the program in 2022 or later (date of matriculation as a PhD student)**: A minimum of **30 ECTS credit points** must be gained in the framework of the MD-PhD/MSc Medical Biology programs. • Questions regarding these 30 or 35 points must be discussed with the MD-PhD/MSc program coordinator.
PhD program **Teaching duties**	• **MD-PhD students**: For your chosen PhD program (Cancer Biology, BioMed, MLS, …) you will have to gain an additional 12 ECTS credit points, and you have to fulfil teaching duties. • Questions regarding these **12 credit points** must be discussed with your supervisor, thesis committee, and/or the PhD program administrator. • Questions regarding **teaching duties** can be addressed to phd.teaching@biol.uzh.ch
StudentAdmin Tool	• All coursework needs to be uploaded into the StudentAdmin tool. **(see section 3)**

2 Courses and credit points

Practical courses and lab rotations	• All students must complete 18 ECTS credit points worth of practical courses (hands-on block courses, programming courses, practical biostatistics courses) and/or lab rotations (see below). • A list of suggestions for courses is listed in Section 5. • Please read the course descriptions in the Course Catalogue carefully to determine whether the course will suit you or not. It does not make sense if you attend courses that cannot teach you anything new. • Access to block courses other than the ones listed may be restricted to Biology Bachelor/Master students.
Research Ethics	• BIO630 is mandatory for all MD-PhD/MSc students. • This course counts toward the soft skill modules. • If you have already completed a course in Research Ethics, or for some reason are unable to attend BIO630, please contact the program coordinator.
Lab rotations	• Lab rotations are strongly recommended for MD-PhD students who have no or little lab experience, and for Track 1 students. • Students may count lab rotations towards the 18 ECTS to be gained with practical courses. • For rules and instructions, see section 7.
Additional modules	• The residual credit points may be acquired by attending suitable natural science/biology courses at the UZH or ETHZ. • A list of recommended lectures and courses is provided in section 8. You can choose freely from this selection of courses. • You are encouraged to select other courses taught at the UZH or ETHZ natural science departments if they suit your specific interest better. If you wish to attend courses that are not listed here, your choice must be approved by the MD-PhD committee. Please send your course list to the MD-PhD coordinator, including a brief explanation.
Statistics & Data Analysis	• Feel free to attend the course that suits your needs best. • For suggestions, see section 8.

Soft skills modules	• Students may account up to a maximum of 4 ECTS credit points gained with soft skill courses. If you wish to attend more soft skill courses, you may do so; however, they will not be counted towards the propaedeutic studies. • BIO 630, which is mandatory, counts towards those 4 points. • MD-PhD students: Please note that you may also attend soft skill courses during your PhD studies and account them towards the 12 ECTS you have to acquire there. Several PhD programs offer specific soft skill courses that may be mandatory and of interest to you. Please check directly with your PhD program for details.
Retreat	• The yearly retreat of the MD-PhD program is organized by the students. • Participation in the organization of the retreat will be awarded 1 ECTS credit point, which is counted toward the soft skills courses.
Recognition of previously gained credit points	• If you have attended courses in biology or related fields prior to entering the MD-PhD or MSc Medical Biology program, it is possible to have the points counted towards the propaedeutic studies. • Recognition is subject to approval by the MD-PhD committee (contact coordinator). • Credit points can only be counted towards one degree. Any points that you have gained in the framework of your medical degree cannot be counted towards the MD-PhD/MSc programs.

3 StudentAdmin Tool

Course work for PhD program (12 ECTS)	• Please enter the documentation of the **12 ECTS for the PhD program** into StudentAdmin under **"Course Work"**. The coordinator if your PhD program will let you know how this needs to be documented.
Course work for MD-PhD propaedeutic studies (30 or 35 ECTS)	• Please enter the courses and credit points that you gained for the MD-PhD propaedeutic studies into the form "**ECTS List**" (to be downloaded from website) and send it to the program coordinator for approval. • Please upload the approved list into StudentAdmin under **"Conditions and Restrictions"**.

4 Module booking

Module organization	• The number of credit points awarded for a course may change from one year to the next. If the points listed here differ from the points listed in the Course Catalogue (*Vorlesungsverzeichnis* VVZ), it is always the information given in the VVZ that is effectual. • Some modules do not take place every year. • Modules generally take place either in the spring semester or in the fall semester.
Attendance in block courses	• If you register for a block course, you must attend it full-time. This means that you have to plan ahead accordingly. • There is no possibility to get leave for individual days during a block course even if this is for events linked to your PhD position (clinical duty, conference attendance, teaching duties). • Non-attendance to a course is rated as failed (see regulations in BIO Block course booking tool). • A doctor's certificate has to be presented if you take sick leave.
Course fees	• Certain courses charge a fee (e.g. LTK courses). These fees are covered by the MD-PhD/MSc program. Please contact the MD-PhD/MSc coordinator.
Course catalogues	• UZH: https://studentservices.uzh.ch • ETHZ: http://www.vorlesungsverzeichnis.ethz.ch • BIO block course booking tool: https://www.uzh.ch/zoolmed/ssl-dir/Blockkurse_UNIETH.php **Students who have not received their matriculation number may register for block courses using "00-000-000".**
Contacts	• Block course booking: kresimir.rados@biol.uzh.ch • Other BIO modules: studienkoordination@biol.uzh.ch • Technical support: http://www.students.uzh.ch/en/support.html

5 Practical courses

UZH/ETH	Module	Title	Duration	ECTS points
UZH	BIO 260	Molecular Biology Course (block course)	3 weeks	6
UZH	BCH 308/309[2)]	Experimentelle Biochemie (block course)	3.5 weeks	6
UZH	BIO 430	Immunology (block course)	3.5 weeks	6
UZH	BIO 628	Neuroscience (block course)	4 weeks	6
UZH	BIO 246 *	Genome Instability and Molecular Cancer Research (block course)	3.5 weeks	6
UZH	BIO 247 *	Cellular Response to Genotoxic Stress (block course)	3.5 weeks	6
UZH	BIO 627	FACS course	4 afternoons	1
UZH	BME366 *	Medical Immunology (block course)	3.5 weeks	6
UZH	IDB201[3)]	Laboratory preparatory course	Autumn Semester	3
EXCITE Zurich[1)]	-	Biomedical Imaging Summer School	2 weeks	4
		Microscopy Winter School	1 week	2

[1)] Details, dates and registration: http://www.excite.ethz.ch/education.html. If you wish to attend the Microscopy Winter School, we strongly recommend that you attend BIO 416 beforehand.

* Please note: these courses are often heavily booked.

[2)] Advanced course for students with good basic biochemistry knowledge, both theoretical and practical

[3)] Introductory course for students who need to obtain basic biochemistry knowledge

6 Mandatory modules

UZH/ETH	Module	Title	ECTS points
UZH	BIO 630	Ethics in Scientific Practice	3
		Participation in the MD-PhD/Master retreat [2)] (1x Master students, 2x MD-PhD)	-

[2)] You will be informed of respective events once you have enrolled.

7 Lab Rotations

General	• Students may include one or more lab rotations in their basic curriculum.
Eligible labs	• Lab rotations can be performed in any lab affiliated to the Life Science Zurich Graduate School (LSZGS). • Lab rotations in institutions outside LSZGS are subject to approval by the MD-PhD steering committee.
Credit points	• Students will be granted 1 ECTS credit point per week (fulltime), up to a maximum of 16 points. • Lab rotations count towards the practical courses.
Documentation	• Students need to hand in a written report (to the program coordinator): • Structure: Scientific publication (title, summary, introduction, results, discussion, material & methods, references) • 5-10 pages, pdf document • Reports must be signed by the supervisor

8 Additional modules (suggestions)

UZH/ETH	Module	Title	ECTS points
UZH	LTK1[1)]	Introductory course in Laboratory Animal science	2
UZH	BIO 416	Microscopy	2
UZH	BIO 144	Data analysis in Biology	5
UZH	STA 120	Introduction to Statistics	5
ETH	227-0969-00L	Methods & Models for fMRI Data Analysis	6
ETH	551-0317-00 V	Immunology I	3
ETH	551-0318-00 V	Immunology II	3
UZH	BIO 254	Functional Genomics	3
UZH	BIO 219	Biomedical Imaging and Scientific Visualization	2
UZH	BIO 615	Principles of Molecular Biology, Pathogenesis, and Control of Human Viruses	2
UZH	BIO 617	Principles of biosafety in medical and biological research	1
UZH	BIO 390	Introduction to Bioinformatics	2
UZH	BIO 342	Comparative Behavioural Neurosciences	3
UZH	BIO 364	The physics of life	2
UZH	BIO 437	Human adaptation	2
UZH	BIO 251	Cancer and the immune system	1
UZH	BIO 257	DNA metabolism and cancer	2

1) Students working with animal models must attend this course. The course fee will be covered by the MD-PhD program (contact coordinator).
Registration: https://www.ltk.uzh.ch/en/teaching-and-training.html

9 Biomedical Imaging Track

If you are interested in pursuing this track, please contact the program coordinator.

UZH/ETH	Module	Title	ECTS points
ETH	227-0946-00L	Molecular Imaging	2
ETH	227-0948-00L	Magnetic Resonance Imaging	4
ETH	227-0390-00L	Elements of Microscopy	4
UZH	STA 404	Statistical Methods in Clinical Research	5
UZH	BIO 416	Microscopy	2
ETH	227-0967-00L	Computational Neuroimaging Clinic	3
ETH	227-0973-00L	Translational Neuromodeling	3
ETH	252-0840-01L	Anwendungsnahes Programmieren mit MATLAB	2
ETH	551-0434-00L	NMR Spectroscopy in Biology	6
ETH	551-1618-00L	Correlative Structural Biology - EM	4