

PhD Course Programme 2026-2027

Course, event	Description	Duration and credits	Responsible and contacts	Dates
Basic and Advanced Flow Cytometry	The course aims to give basic functional aspects of flow cytometer, and advanced learnings regarding study panel design, data analyses and flow cytometry data presentation. The course will discuss the following topics: Basic functional aspects of a flow cytometry, Morphological Parameters, Fluorescence and Fluorophores, False positive events (dead cell exclusion and doublets discrimination), Negative controls, Cell Staining Procedures for immunophenotyping, Signal Amplification, Machine Set Up, Reagents titration, Theory of fluorescence compensation and related procedures, Data analysis, Flow cytometry data presentation, Study design	4 hours 0.25 ECTS	IOR Prof. Arianna Calcinotto Dr. Jens Fleischer registration: phd.biomed@usi.ch	Dates TBD (as soon as the min. number of participants is reached)
Bioinformatics	Data mining algorithms and classification methods; structural bioinformatics	2 days 1.5 ECTS	USI Prof. Vittorio Limongelli Stefano Raniolo registration: phd.biomed@usi.ch	TBD
Biomedical Sciences program	The detailed programme can be downloaded from our website: https://www.biomed.usi.ch/en/study/doctoral-studies-biomedical-sciences/phd	10 per year 0.5 ECTS	lucio.barile@usi.ch	21.01.2026 18.02.2026 26.02.2026 11.03.2026 18.03.2026 22.04.2026 20.05.2026 17.06.2026 15.07.2026 23.09.2026 14.10.2026 18.11.2026
Cardiovascular Research Cluster Bern courses	e.g. Techniques in Cardiovascular Research, Heart Module, Cardiovascular Technology, Heart rate variability, Cellular and Translational Cardiac Electrophysiology, Vascular	Variable duration and ECTS	UNIBE Daniela Castillo daniela.castillorobles@unibe.ch https://www.cvrc.unibe.ch/ph	

	Cell Biology		d_program/courses/	
Computational Biology and Drug design	The course provides knowledge to deal with calculations of biological interest. Principles of biology and chemistry are delivered together with a deep understanding of the methods used to compute chemico/physical properties of molecules such as organic and peptidic ligands, proteins and nucleic acids. Standard and advanced computational techniques are described in details and many applications illustrated. Molecular dynamics, free-energy calculations are some examples. Great attention is dedicated to the application of these methods in drug design through rational approaches and more automated protocols. Prerequisites: Basic knowledge of chemistry, biology and pharmacology; good knowledge of structure-based drug design; good knowledge of molecular simulations in pharmacology (drug/molecular target interaction).	2 half days 2 ECTS	USI Prof. Vittorio Limongelli registration: phd.biomed@usi.ch	TBD
Ethical issues in Biomedical Research	The objectives of this course are to increase this awareness of the ethical issues and of their potential impact in the selection and preclinical evaluation of new molecules, in the decision making process, in the care of patients and in the social environment.	1 day 0.5 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/	2027
Exploring real-world data for biomedical research: An introduction to observational studies	This interactive 3-hour course introduces the students to the growing role of real-world data (RWD) in clinical research with a particular focus on drug use and safety. The course will cover key sources of RWD, including patient registries, spontaneous reporting systems, and electronic health records. Participants will explore how these data can be accessed and used to design and conduct observational studies, both descriptive and analytical such as cohort studies, case-control studies, and disproportionality analyses, with an emphasis on applications in pharmacoepidemiology and drug safety evaluation. Open to students from clinical and non-clinical backgrounds.	3 hours 0.25 ECTS	Istituto di Scienze Farmacologiche della Svizzera Italiana (ISFSI) registration: phd.biomed@usi.ch	TBD
Extracellular vesicles and intercellular communication	Introduction in cell-to-cell communication mediated by extracellular vesicles. The course will cover the principles of their biogenesis, cell targeting, uptake, and cargo release required for functional paracrine activity.	3 hours 0.25 ECTS	LRT-EOC Elena Vacchi, Edoardo Lazzarini registration: elena.vacchi@eoc.ch	TBD

GCP 1st Level Investigator	Part 1 and 2	2 days 1 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/	04.03.2026 11.03.2026 (EN) 07.10.2026 14.10.2026 (IT)
Giornata della Ricerca	Il programma prevede una cerimonia di ringraziamento, delle Keynote Lectures, quattro sessioni parallele con le presentazioni orali dei risultati dei progetti di ricerca svolti in Ticino, e la consueta esposizione e discussione dei poster.	1 day 0.5 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/	04.09.2026
How to write a grant proposal	This course presents the research funding landscape. You will learn how to apply for specific instruments, and how to prepare specific sections of your grant written application.	½ day 0.25 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/	30.03.2026
Immunology course	The coursework consists of 10 lessons. Each lesson includes the presentation and discussion of two chapters of the book: "Cellular and Molecular Immunology", Abbas, Lichtman, Pillai (Elsevier Saunders) with the supervision of a principal investigator of the institute. Every student presents two chapters during the course and actively participates in the discussion of the other chapters.	1 ECTS	IRB Prof. Greta Guarda greta.guarda@irb.usi.ch	TBD
Introduction to Biostatistics	I principi di base della statistica applicata alle scienze biologiche e alla medicina. Relatore: Dr. Valter Torri, Responsabile Lab. Metodologia per la Ricerca Clinica, Mario Negri Milano.	2 half days 0.5 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/	06.03.2026 13.03.2026 (EN)
Introduction to mass spectrometry-based proteomics	Basic principles of mass spectrometry and data analysis will be discussed as well as several applications of proteomics in biomedical research.	4 hours 0.25 ECTS	Prof. Roger Geiger, Dr. Matteo Pecoraro matteo.pecoraro@irb.usi.ch	Dates TBD (as soon as the min. number of participants is reached)
Ion channels and Channelopathies	Ion channels background: structure-function relationship. The aim of the course is to focus on the physiological contribution of transmembrane ion channels with the particular attention to their role in the main pathological conditions.	3 hours (3x 60 mn) 0.25 ECTS	Cardiocentro Claudia Altomare registration: claudia.altomare@eoc.ch	Dates TBD (as soon as the min. number of participants is reached)
IOR internal lectures	The detailed programme can be downloaded from our website: https://www.biomed.usi.ch/en/study/doctoral-studies-biomedical-sciences/phd	10 per year 0.5 ECTS	IOR www.ior.usi.ch	09.10.2026 23.10.2026 27.11.2026 18.12.2026 29.01.2027 26.02.2027 12.03.2027 23.04.2027 21.05.2027 11.06.2027

IOSI internal lectures	The detailed programme can be downloaded from our website: https://www.biomed.usi.ch/en/study/doctoral-studies-biomedical-sciences/phd	10 per year 0.5 ECTS	IOSI ricerca.iosi@eoc.ch	15.01.2026 26.02.2026 26.03.2026 23.04.2026 21.05.2026 27.08.2026 24.09.2026 22.10.2026 12.11.2026
IRB internal lectures	The detailed programme can be downloaded from our website: https://www.biomed.usi.ch/en/study/doctoral-studies-biomedical-sciences/phd	10 per year 0.5 ECTS	IRB www.irb.usi.ch	23.09.2025 25.11.2025 17.12.2025 11.02.2026 25.02.2026 05.03.2026 26.03.2026 17.04.2026 07.05.2026 29.05.2026
Lab-to-market: Turning ideas into commercial solutions	Lab-to-Market is a USI Startup Centre (USC) initiative that helps researchers turn academic results into entrepreneurial solutions. In collaboration with the Technology Transfer Office (TTO) and industry experts, the programme promotes entrepreneurship as a career path, explains commercialization processes and strategic options, and builds business knowledge and market skills for funding success. It equips PhD students and researchers to assess the commercial potential of their research work, understand intellectual property, and explore entrepreneurial pathways. This enhances their ability to create impact in academia and industry while broadening career opportunities.	1.5 ECTS	USI Startup Centre Francesco Meli registration: francesco.meli@usi.ch	10.11.2026 17.11.2026
Microscopy applications for immunological research	Physics light; practical instruction on microscopes; Fluorescence Microscopy Application; practical measurements with confocal and wide field microscopes; digital images, image analysis with ImageJ / Cell profiler; IHC; multi-photon microscopy	2 days 1.5 ECTS	IRB Diego Morone diego.morone@irb.usi.ch Prof. Marcus Thelen marcus.thelen@irb.usi.ch	Dates TBD
PhD Day	A special opportunity for USI PhD students not only to get to know each other, discuss with their peers and attend various lectures, but also to present their work to through posters or public presentations.	1 day 0.5 ECTS	USI phd.biomed@usi.ch	11.12.2026
PhD program Biomedicine UZH-ETH	e.g. Introduction to human physiology (Sensory systems – how we hear and see, Membrane transport / signal transduction, Regulation of cardiovascular function), Molecular Biology Methods, Mouse physiology and patho-physiology	Variable duration and ECTS	ETH-UZH andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html	
Planning and conducting Clinical Research	Planning and conducting Clinical Research	2 days 1 ECTS	CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration:	2026

			https://www.ctueoc.ch/formazione/	
Practical aspects of Next Generation Sequencing and its applications	This course will introduce students to NGS techniques on practical point of view. We will discuss the use of NGS from research area (presenting the different approaches that were developed) to clinical practice (disease diagnosis, prognosis, therapeutic decision and follow up of patients).	6 hours (4x90min) 0.5 ECTS	IOR Dr. Andrea Rinaldi Prof. Davide Rossi andrea.rinaldi@ior.usi.ch	Dates TBD (as soon as the min. number of participants is reached)
Regenerative Medicine & musculoskeletal sciences	This course will have a strong translational character to expose students to the bench-to-bedside translational path, being composed of two parts. The first will span the fundamentals in 3D in vitro & preclinical models (biomaterials, cells, biofabrication techniques), whilst the second part will deal with the clinical aspects of the application of regenerative medicine products and biologics to the patients (regulatory, ethics, etc.). At the end of the course, the students will perform an analysis of the state of the art within their field of research.	2 days + practical work 3 ECTS	RMT Lab/ Orthopedic and Trauma Service EOC	
Research policy and grant proposal writing	Course to introduce students to the research policy and funding landscape and to provide them with the competences needed for academic careers	9 days (9x 3h) 3 ECTS	USI Prof. Benedetto Lepori registration: www.phdsubscription.lu.usi.ch (support: gestione-dottorato.com@usi.ch)	Fall semester 2026-2027
SSPH+ Summer School – lecture series	Online lectures on public health questions	3 days 1 ECTS	SSPH+ information and registration: https://www.sspg-lugano-summer-school.ch/	
Summer School in Social Science Methods	The Summer School in Social Science Methods has been conceived for those who feel the need to refresh, deepen and widen their methodological knowledge and skills, whatever their professional situation: student, researcher or practitioner.	10 days from 1.25 ECTS	https://www.usi.ch/en/education/lifelong-learning/summer-winter-school/ssm contact: methodssummerschool@usi.ch	
Systematic reviews and meta-analyses	This course is aimed at all those in their disciplines who need to know and adopt the methodology of systematic reviews and meta-analyses	1 day 1.5 ECTS	Prof. Dr. med. Giorgio Treglia Registration: https://www.ctueoc.ch/formazione/	25.11.2026
Writing and publishing a scientific paper	NIH-based practical course on scientific writing in biomedical disciplines, with a focus on - but not limited to - public health and epidemiology. The course consists in theory and practice of crafting a manuscript through a supervised group work throughout its duration. Prerequisites: Ideally students come to the course after the completion of their research	3 days 2 ECTS	SSPH+ IPH Prof. Emiliano Albanese registration: https://www.conftool.com/ssph-phd-courses2025/	08.05.2026

	project and having completed their main analysis (or secondary analysis of existing data). However, these requisites are not essential, and the results of their study may or not be ready, and tables and figures may be still in preparation. In case a student has data available, it is important that the use of the data is approved by relevant parties (i.e. the study, the P.I., relevant ethics committee)			
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Notes

- Please see the list of mandatory and recommended courses for your PhD specialisation.
- For registration you have to contact the organiser of the course, unless otherwise specified.
- You will be informed by email of major changes and the programme will be regularly updated.
- Courses take place only when a minimum number of participants is reached.
- The list is not exhaustive. Other commonly chosen courses are SIB courses, LTK courses and generally all courses offered by other Swiss universities upon approval of the Thesis Director (see the "PhD Study Regulations"). Other events are BENEFRi workshops and Wolfsberg meetings.