

PhD Programme General and specific skills courses 2021-2022

| Course | Description | Duration and credits | Responsible and contacts | Dates |
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| Writing and publishing a scientific paper | NIH-based, practical course to learn and apply a structured method to write scientific papers, which consists in crafting the manuscript through a supervised peer-to-peer work over 6 weeks. Prerequisites: You must already have the results of your study and must have 2/3 published papers (full text) on the subject of your study, one from your own Lab. | 6 days (6x 2h) 1.5 ECTS | USI Prof. Emiliano Albanese registration: phd.biomed@usi.ch | 23.02.2022 16.03.2022 06.04.2022 27.04.2022 18.05.2022 08.06.2022 (From 15.30 to 17.00) |
| GMP | Good Manufacturing Practices (GMP) for cell-based medicinal products | 1 day 1 ECTS | GMP-CCT Dr. Radrizzani Marina registration: phd.biomed@usi.ch | 20.09.2021 Next date coming soon |
| SSPH+ Summer School – lecture series | Online lectures on public health questions | 3 days 1 ECTS | SSPH+ Information and registration: http://www.ssph-lugano-summer-school.ch/2020-programme/ | Summer 2021 |
| 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 | 13.08.2021 - 27.08.2021 Summer 2022 |
| GCP Primo livello | Part 1 and 2 | 2 days 1 ECTS | CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/ | 13.04.2021 20.04.2021 (EN) 11.10.2021 18.10.2021 (IT) |
| Bioinformatics | Data mining algorithms and classification methods; structural bioinformatics | 2 half days 1.5 ECTS | USI Prof. Vittorio Limongelli registration: phd.biomed@usi.ch | 17.11.2021 25.11.2021 From 14.30 to 18.30) |

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| GCP Secondo livello | Certificato GCP 1° Livello per Investigatore necessario | 1 day 0.5 ECTS | CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/ | 04.05.2021 (EN) 17.11.2021 (IT) |
| Biostatistics (Part 1 and 2) | 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/ | 31.05.2021 07.06.2021 (EN) 29.11.2021 06.12.2021 (IT) |
| Planning and conducting Clinical Research | Planning and conducting Clinical Research | 2 days 1 ECTS | CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/ | 10.05.2021 17.05.2021 OR 21.10.2021 28.10.2021 |
| Ethical issues | Ethical issues in Biomedical Research | 1 day 0.5 ECTS | CTU-EOC Laura Di Petto Laura.DiPetto@eoc.ch registration: https://www.ctueoc.ch/formazione/ | 25.05.2021 (EN) 04.10.2021 (IT) |
| 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 | 8 days (8x 3h) 3 ECTS | USI Prof. Benedetto Lepori registration open from 1st December to 25th January: www.phdsubscription.lu.usi.ch (support: stefano.giacomelli@usi.ch) | 01.02.2021 08.02.2021 15.02.2021 22.02.2021 01.03.2021 12.04.2021 (From 13.00 to 16.00) 2022 dates TBD |
| IRB internal lectures | Akiko Iwasaki, Yale School of Medicine, New Haven Tracy Handel, University of California, San Diego Elisabetta Traggiai, Novartis Institutes for BioMedical Research, Basel Massimiliano Pagani, The FIRC Institute of Molecular Oncology, Milan Chiara Romagnani, Deutsches Rheuma-Forschungszentrum, Berlin Monika Wolkers, Sanquin, Amsterdam Bruno Silva-Santos, Instituto de Medicina Molecular, Lisbon Carola G. Vinuesa, Australian National University, Canberra | 10 per year 1 ECTS | IRB Detailed programme: www.irb.usi.ch | 18.11.2021 02.12.2021 09.12.2021 31.01.2022 17.02.2022 10.03.2022 07.04.2022 29.04.2022 12.05.2022 09.06.2022 |

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| 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 Dr. Arianna Calcinotto Dr. Angela Elia registration: phd.biomed@usi.ch | 21.09.2021 (13.30-17.30) Next edition TBD |
| 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 | 15.11.2021 19.11.2021 22.11.2021 26.11.2021 |
| Seminars in Biomedical Neurosciences | Brain fog and fatigue after COVID-19: evidence of frontal lobe dysfunction Beyond our eyes: the non-visual impact of light Cognitive Neuroscience of Imagination: Behavior, Eye Movements and Neuronal Correlates Towards cholesterol-based strategies targeting the Huntington's disease brain Meta-analysis methods for clinical studies | 10 per year 1 ECTS | Neurocentro salvatore.galati@eoc.ch Detailed programme : https://content.usi.ch/sites/default/files/storage/attachments/biomed/biomed-usi_int_phd_program_sem_biom_neurosciences_nsi_2021_2.semestre.pdf | 14.07.2021 08.09.2021 06.10.2021 17.11.2021 07.12.2021 Via Zoom |
| Cardiocentro internal lectures | internal lecture seminars / courses / conferences | 10 per year 1 ECTS | Cardiocentro lucio.barile@cardiocentro.org | Dates TBD |
| BENEFRI workshops | The BENEFRI Neuroscience Program organises yearly block courses (BENEFRI Neuroscience Workshops) and oral examinations in structural and functional neuroscience. The workshops last for 3 days in February and cover various aspects of the neurosciences. | 3 days 1,5 ECTS | University of Bern and Fribourg katrin.huber@unifr.ch | February 2022 |
| 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 (2x 90 min) 0.25 ECTS | Cardiocentro Carolina Balbi, Giona Pedrolì registration: carolina.balbi@cardiocentro.org | 24.03.2021 25.03.2021 From 13.30 to 15.30 Online Next edition TBD |

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| 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@cardiocentro.org | TBD (as soon as the min. number of participants is reached) |
| Pharmaceutical Chemistry | Introduction to drug/target interaction. Understanding and rationalization of drug mechanism of action. Case study on anti-inflammatory drugs. | 2 days 1.5 ECTS | USI Prof. Vittorio Limongelli registration: phd.biomed@usi.ch | TBD (as soon as the min. number of participants is reached) |
| Drug design | Principles of pharmacokinetics and pharmacodynamics. Successful examples of drug discovery, from design to clinic. | 2 days 1.5 ECTS | USI Prof. Vittorio Limongelli registration: phd.biomed@usi.ch | 04.05.2022 11.05.2022 (dates to be confirmed) From 14.30 to 18.30 |
| Molecular Biology Methods | This course is intended to provide a general overview, as well as deep insights into different molecular biology methods for gene and protein expression profiling, analysis of promoter regulation and gene silencing (including real-time quantitative PCR, Chromatin immunoprecipitation, Western blot, High throughput screening, etc.). The course will cover experimental design, different methodology approaches, method limitations, troubleshooting, protocols reagents and kits, and presentation of results. Real life case scenarios and practical issues will be also discussed. | 2 days 1 ECTS | ETH Prof. Pedro Ruiz andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | Dates TBD |
| Bioinformatics and Next Generation Sequencing | Within this course you will learn important bioinformatics concepts and tools and in particular focus on the analysis of Next Generation Sequencing datasets with many examples and exercises. Basic bioinformatics knowledge is recommended. Via Zoom. | 6 days 3 ECTS | ETH Prof. Ferdinand von Meyenn andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | 01.11.2021 08.11.2021 15.11.2021 22.11.2021 29.11.2021 06.12.2021 |
| Sensory systems: How we hear and see | In the morning, you will receive a theoretical overview about the function of the visual and auditory system. In the afternoon, you will perform experiments to learn more about the abilities of the human eye and ear. | 2 days 1 ECTS | ETH Prof. Christian Grimm and Flurin Pfiffner andrea.schmitz@uzh.ch registration: by email, before 4 January 2021 https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | End of 2022 |
| Membrane transport / signal transduction | | 2 days 1 ECTS | ETH andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | March-April 2022 |

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| Regulation of cardiovascular function | In the morning, you will receive a theoretical overview of cardiovascular physiology, focusing on the context that will help you to better understand your practical experiments. In the afternoon, you will perform the following practical work: Measuring blood pressure, pulse wave and blood flow velocity as well as recording an electrocardiogram (EKG). Furthermore, we will perform a real-time echocardiography (heart ultrasound) demonstration for you. | 2 days 1 ECTS | ETH PD Dr. Elena Osto and Prof. Dr. Isabella Serano andrea.schmitz@uzh.ch registration: by email, before 2 August 2021 https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | 15.09.2021 16.09.2021 |
| Respiration and blood | | 2 days 1 ECTS | ETH Prof. Carsten Scholz andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | 22.02.2022 24.02.2022 |
| Mouse physiology and pathophysiology | Introduction to techniques such as animal husbandry, rodent diets, pain management, and imaging techniques as well as disease models. Discussion about resources and reagents available in Zürich. | 2 days 1 ECTS | ETH Lubor Borsig / Petra Seebeck andrea.schmitz@uzh.ch https://www.phd-biomed.uzh.ch/en/BioMed_Training/BioMed_courses.html | 17.06.2021 18.06.2021 |

Notes

- The decision to include a course into the “general skills” or “specific skills” depends on the single doctoral programme and is made in accordance with the Thesis Director. “Specific skills” courses are the ones that are essential to the PhD project (as can be immunology to IRB students or neurology to NSI students, for instance), while “general skills” courses may be common to different PhD programmes (grant writing, biostatistics, etc.).
- For registration please directly 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.