

Suggestions for Lectures and Courses

A minimum of 6.0 ECTS is required for the PhD Program of the GCB. Courses for PhD Students listed below are offered by the programs indicated in the right-hand column. Upon request it is possible to select other courses. ECTS of courses marked with an asterisk (*) will *not* count for the mandatory 6.0 credit points.

<u>Transferable Skills</u>	<u>Biomedical Engineering</u>
<u>Molecular Biology</u>	<u>Neuroscience</u>
<u>Cell Biology</u>	<u>Epidemiology</u>
<u>Biochemistry</u>	<u>Methodology/Biostatistics</u>
<u>Immunology/Microbiology</u>	<u>Various Programs</u>
<u>Biomedicine</u>	<u>Seminars/Journal Clubs at Different Institutions</u>

Transferable Skills	Additional Information**	Term	ECTS	Offered by
Basics of Ethics in Health Sciences Research	GHS	special schedule	1.0	GHS
Effective Grant-Writing for Young Scientists*	GCB	special schedule	0.5	GCB
English Courses*	Academic English Services, University of Bern	special schedules	0.0	Academic English Services
Introduction to Systematic Literature Searching <i>next course to be announced</i>	GCB	special schedules	0.5	GCB
Presenting with Confidence*	GCB	special schedule	0.0	GCB
Project Management for Researchers*	GCB	special schedule	max. 1.0	GCB
Scientific Communications for PhD Students	GCB	special schedule	2.0	GCB

Scientific Integrity (mandatory for all GCB candidates)	GCB	Fall, 2 hours	0.0	GCB
Scientific Writing*	Inselspital	special schedule	1.5	GCB
The Art of Lecturing*	Inselspital	special schedule	2.0	GCB
Molecular Biology	Additional Information**	Term	ECTS	Offered by
Beyond genetic inheritance: Epigenetic gene regulation, chromatin structure and nuclear organization	CTS/KSL 27339	Spring	3.0	MLS
Cellular and Genetic Networks	CTS/KSL 11470	Spring	3.0	MLS
DNA/RNA sequence analysis	CTS/KSL 104219	Fall	3.0	Bioinformatics
DNA Sequencing and Mutation Analysis: Basics of Sanger and Next Generation Sequencing	GCB	November	2.0	GCB
Genomics of Microorganisms	CTS/KSL 405520	Spring 2 nd half	1.5	MLS
Happy Cell – Book Club «Molecular Biology of the Cell» by Bruce Alberts et al.	GCB	special schedule	5.0	GCB
Molecular Genetics of Model Organism Development <i>together with University of Fribourg</i>	CTS/KSL 4582	Fall	3.0	MLS
Molecular Life Sciences Journal Club	CTS/KSL 11502	special schedule	2.0	MLS
Principles of Nucleic Acids	CTS/KSL 3019	Fall	1.5	Chemistry
RNA Biology I	CTS/KSL 412058	Fall	3.0	MLS
RNA Biology II	CTS/KSL 412073	Fall	3.0	MLS
The Genetic Code	CTS/KSL 6983	Fall	1.5	MLS

Cell Biology	Additional Information**	Term	ECTS	Offered by
Blood (Registration: zimmermann@pyl.unibe.ch)	STUDMED	Fall	2.0	Biomed Sciences
Cell Migration	GCB	November	2.0	GCB
Concepts and Methods in Programmed Cell Death and Autophagy (Training Course)	CTS/KSL 8512	bi-annually (in even years)	1.0 with exam	GCB
Dynamics of Cellular Contacts: Cell adhesion and motility	CTS/KSL 2222	Fall	3.0	MLS
Selected Topics of Cell Biology Lecture & Seminar Series	IRB, Bellinzona	special schedule	3.0	IRB
Biochemistry	Additional Information**	Term	ECTS	Offered by
Advanced Medicinal Chemistry – From Target to Drug	CTS/KSL 3456	Spring	1.5	Chemistry
Applied MS Spectroscopy	CTS/KSL 406196	Spring	1.5	Chemistry
Basic Medicinal Chemistry – Principles of Drug Action	CTS/KSL 3021	Fall	1.5	Chemistry
Chemical Biology	CTS/KSL 3462	Spring	3.0	Chemistry
Chemical Modification of Proteins	CTS/KSL 10610	Fall	1.5	Chemistry
Enzyme Mechanisms and Enzyme Models	CTS/KSL 3455	Spring	3.0	Chemistry
Forensic Chemistry and Toxicology	CTS/KSL 3461	Spring	3.0	Chemistry
Lipid biology, a major research target of the post-genomic era	CTS/KSL 9577	Every third semester	1.5	BSc Biochemistry
Module in Metabolomics	CTS/KSL 431383	Fall	1.5	GCB
Omics: From Genomes to Metabolomes	CTS/KSL 2216	Fall	3.0	MLS
«Omics»: Practical introduction to genomics and transcriptomics	CTS/KSL 2217	Spring	2.5	MLS
Synthesis of Natural Products	CTS/KSL 24820	Fall	3.0	Chemistry

Immunology/Microbiology	Additional Information**	Term	ECTS	Offered by
Allgemeine Biologie pathogener Mikroorganismen A: Bakteriologischer Teil	CTS/KSL 2793	Fall	3.0	BSc Biology
Allgemeine Biologie pathogener Mikroorganismen B: Virologischer Teil	CTS/KSL 2794	Spring	3.0	BSc Biology
Cellular and Molecular Immunology	CTS/KSL 3809	Fall	3.0	MLS
Colloquium on Host-Pathogen Interactions	CTS/KSL 2221	special schedule	4.0	MLS
Immunology – Book Club «Cellular and Molecular Immunology» by Abul K. Abbas	GCB	special schedule	3.0	GCB
International Summer School on Inflammation, Immunomodulation, Inspiration	Institute of Pharmacology	Summer	1.0 with presentation Awarded once per student	GCB
Klinische Mikrobiologie, B: Virologischer Teil	CTS/KSL 2803	Spring	3.0	BSc Biology
Klinische Mikrobiologie und Infektiologie I für Pharmaziestudierende	CTS/KSL 11065	Fall	3.0	BSc Pharmacy
Klinische Mikrobiologie und Infektiologie II für Pharmaziestudierende	CTS/KSL 102227	Spring	3.0	BSc Pharmacy
Medizinische Parasitologie und tropische Parasitosen	CTS/KSL 2804	Fall	3.0	BSc Biology
Molecular Biology of Inflammation	CTS/KSL 4537	Spring	3.0	MLS
Molecular Parasitology	CTS/KSL 2806	Spring	3.0	BSc Biology
Pathogenesis and Evolution of Infectious Diseases	CTS/KSL 4542	Fall	3.0	MLS
Selected Topics in Clinical Immunology	CTS/KSL 4540	Spring	3.0	MLS

Biomedicine	Additional Information**	Term	ECTS	Offered by
Cellular and Molecular Immunology	CTS/KSL 3809	Fall	3.0	MLS
Colloquium on Host-Pathogen Interactions	CTS/KSL 2221	special schedule	4.0	MLS
Concepts and Methods in Programmed Cell Death and Autophagy (Training Course)	CTS/KSL 8512	bi-annually	1.0 with exam	GCB
Endocrinology	ruegge@pyl.unibe.ch	Spring	2.0	Biomed Sciences
Evolution of Adaptive Mechanisms in Vertebrates – Physiology, Behaviour and Implications for Health and Welfare	GCB	special schedule	3.0	GCB
"Excitation-Contraction Coupling and Cardiac Contractile Force" (book by Donald M. Bers)	E. Niggli <i>Registration required:</i> niggli@pyl.unibe.ch	20 x 2 h, special schedule	3.0	GCB
Human-animal interactions: Impacts on animal welfare and behaviour (Symposium)	Vetsuisse Bern, Division of Animal Welfare	Spring; annually, 1 day	0.5 with presentation	GCB
Pharmacology	ruegge@pyl.unibe.ch	Fall	1.5	Biomed Sciences
Physiologie für Pharmazie-Studierende	Dept. of Physiology	Fall	3.0	BSc Pharmacy
Skin and CT	ruegge@pyl.unibe.ch	Spring	1.0	Biomed Sciences
Stem Cells & Regenerative Medicine, Lecture	GCB	Spring	2.0	GCB
Stem Cells & Regenerative Medicine, Students' Retreat	SCRM	Fall	0.5 with presentation	SCRM
Topics in Tumor Biology	GCB	Spring	3.0	GCB
Translational Cancer Research: Crosstalk in Academic, Clinical and Pharmaceutical Cancer Research: Willing to improve?...	Mario Tschan (Information: GCB)	Spring	3.0	GCB

Biomedical Engineering	Additional Information**	Term	ECTS	Offered by
Basics in Physiology for Biomedical Engineering	CTS/KSL 415060	Fall	3.0	Biomed Engin.
Basics of Applied Molecular Biology (for Engineers)	CTS/KSL 417151	Fall	1.0	Biomed Engin.
Biological Principles of Human Medicine <i>Basic course for bioengineers, not for biologists</i>	CTS/KSL 101578	Fall	3.0	Biomed Engin.
(Bio)Materials	CTS/KSL 101701	Spring	5.0	Biomed Engin.
Biomedical Acoustics	CTS/KSL 101589	Fall	3.0	Biomed Engin.
Biomedical Instrumentation	CTS/KSL 101592	Fall	5.0	Biomed Engin.
C++ Programming I	CTS/KSL 394661	Spring	3.0	Biomed Engin.
C++ Programming II	CTS/KSL 414078	Fall	3.0	Biomed Engin.
Cardiovascular Technology	CTS/KSL 407234	Fall	3.0	Biomed Engin.
Computer Assisted Surgery	CTS/KSL 399082	Spring	3.0	Biomed Engin.
Continuum Mechanics	CTS/KSL 399219	Spring	3.0	Biomed Engin.
Engineering Mechanics	CTS/KSL 101450	Fall	6.0	Biomed Engin.
Ethics in Biomedical Engineering	CTS/KSL 407221	Fall	2.0	Biomed Engin.
Finite Element Analysis I	CTS/KSL 102186	Spring	3.0	Biomed Engin.
Finite Element Analysis II	CTS/KSL 101627	Fall	3.0	Biomed Engin.
Fluid Mechanics	CTS/KSL 399221	Spring	4.0	Biomed Engin.
Functional Anatomy of the Locomotor Apparatus <i>Lecture & Practical</i>	CTS/KSL 102187	Fall	3.0	Biomed Engin.
Image-Guided Therapy Lab	CTS/KSL 103685	Spring	2.0	Biomed Engin.

Intelligent Implants and Surgical Instruments	CTS/KSL 101638	Fall	3.0	Biomed Engin.
Introduction to Medical Statistics	CTS/KSL 102190	Spring	3.0	Biomed Engin.
Introductory Anatomy and Histology for Biomedical Engineers	CTS/KSL 407235	Fall	3.0	Biomed Engin.
Medical Image Analysis	CTS/KSL 101702	Fall	5.0	Biomed Engin.
Medical Image Analysis Lab	CTS/KSL 102475	Fall	4.0	Biomed Engin.
Medical Robotics	CTS/KSL 102193	Spring	3.0	Biomed Engin.
Microsystems Engineering	CTS/KSL 102195	Spring	3.0	Biomed Engin.
Numerical Methods	CTS/KSL 101707	Fall	5.0	Biomed Engin.
Ophthalmic Technologies	CTS/KSL 104463	Fall	3.0	Biomed Engin.
Osteology	CTS/KSL 101708	Fall	3.0	Biomed Engin.
Principles of Medical Imaging	CTS/KSL 130402	Fall	3.0	Biomed Engin.
Regulatory Affairs and Patents	CTS/KSL 102196	Spring	4.0	Biomed Engin.
Rehabilitation Technology	CTS/KSL 102197	Fall	3.0	Biomed Engin.
Technology and Diabetes Management	CTS/KSL 101722	Fall	3.0	Biomed Engin.
Tissue Biomechanics	CTS/KSL 400341	Fall	3.0	Biomed Engin.
Tissue Biomechanics Lab	CTS/KSL 400364	Fall	2.0	Biomed Engin.
Tissue Engineering	CTS/KSL 101724	Fall	3.0	Biomed Engin.

Neuroscience	Additional Information**	Term	ECTS	Offered by
BENEFRI, Neuroscience Program				
Neuroanatomy/neurohistology/neuroembryology	BENEFRI		4.0	BENEFRI
Neurobiochemistry/neurophysiology	BENEFRI		4.0	BENEFRI
BENESCO Lecture Series on Signal Analysis and Brain Oscillation in Health and Disease	Inselspital	Fall/Spring	2.0	Neurology
BENESCO Winter Research Meeting	simone.duss@insel.ch	Spring		BENESCO
Central Nervous System	ruegge@pyl.unibe.ch	Fall	1.75	Biomed Sciences
Colloquium in Neuro- and Developmental Biology	CTS/KSL 25847, 25848 and 25849	Spring	1.5 or 1.0 per module	MLS
Disease & Repair in the CNS	CTS/KSL 27340	Spring	1.5	MLS
Neurochemistry	CTS/KSL 24822	Fall	3.0	Chemistry
Neurogenetics <i>together with University of Fribourg</i>	CTS/KSL 25469	Fall	3.0	MLS
Epidemiology	Additional Information**	Term	ECTS	Offered by
Critical Review of Scientific Manuscripts <i>only epidemiology field</i>	ISPM	special schedule	1.5	ISPM
Epidemiology – Book Club/Seminar	ISPM	special schedule	3.0 with exam	ISPM
Epidemiology/Critical Appraisal – Journal Club/Seminar	ISPM	Tue 14:30-15:30, special schedule, once a month	1.5, 2.0 with report	ISPM
Essential Medical Statistics – Book Club «Essential Medical Statistics», by B.R. Kirwood & J.A.C. Sterne	ISPM	special schedule	3.0 with exam	ISPM
Introduction to Epidemiology & Biostatistics	Vetsuisse Bern, VPH Institute	2 weeks, summer	4.0	Vetsuisse

Methodology/Biostatistics	Additional Information**	Term	ECTS	Offered by
Bioinformatics	Swiss Institute of Bioinformatics	special schedules		SIB
Bioinformatics and Computational Biology	MSc Program in Bioinformatics and Computational Biology	special schedule		Bioinformatics
Biostatistics for Non-Statisticians: Good Practices, Misuse and Pitfalls	GCB (KSL 421204)	Dec. 2017 <i>last course</i>	1.0	GCB
Cell Migration	GCB	November	2.0	GCB
Einführungskurs in die med. Statistik	Institut für mathematische Statistik und Versicherungslehre	Spring	3.0	Departement of Mathematics and Statistics
Introduction to Epidemiology & Biostatistics	Vetsuisse Bern, VPH Institute	2 weeks, summer	4.0	Vetsuisse/GCB
Introduction to Flow Cytometry (FACSLab)	FACSLab	special schedule	2.0	GCB
Introductory Course in Laboratory Animal Science LTK Module 1 (subject to a charge)	Institute of Laboratory Animal Science, University of Zurich	special schedules	2.0	
Lecture Series in Advanced Microscopy <i>registration in CTS/KSL mandatory (# 9256)</i>	MIC	Fall	3.0	MIC
Making the most out of my research Patents, licenses and other things I cannot afford to ignore – A hands-on workshop for researchers in life sciences	Forum for Genetic Research	bi-annually (in even years)	1.0	
Microscopy Applications for Immunological Research (at IRB in Bellinzona)	GCB	November	1.5	MIC
Microscopy: MIC Modules (Workshops)	MIC	special schedules		MIC
Microsurgery Course (subject to a charge)	Microsurgery Course website	special schedule	1.0	DCR
Molecular Biological Methods in Clinical Research	GCB	January	2.0	GCB

Principles in Transgenic Mouse Technology	GCB	special schedule, Fall	1.0 with exam	GCB
Statistical Literature Seminar	GCB	special schedule	1.0 with presentation	Vetsuisse
Stereology Workshop	MIC	August	2.5	MIC
Vascular Cell Biology	GCB	May	2.0	GCB
Various Programs	Additional Information**	Term	ECTS	Offered by
PhD Specialization: Cutting Edge Microscopy	MIC	special schedules		MIC
Doctoral Programs in Biology	CUSO	special schedules		CUSO
NCCR RNA & Disease	NCCR RNA & Disease	special schedules		NCCR
NCCR TransCure	NCCR TransCure	special schedules		NCCR
SKMB Courses & Meetings	LS²	special schedules		
Seminars/Journal Clubs at Different Institutions	Additional Information**	Term	ECTS	Offered by
Bern Immunology Club	Bern Immunology Club	special schedules		BIC
Biochemistry Seminars	DCB	special schedules		DCB
Cell Biology Seminar	ICB	special schedules		ICB
Classical Papers in Public Health – Journal Club/Seminar	ISPM	special schedule	1.0	ISPM

DCR Progress Report	DCR	Wed 12:30-13:30		DKF
Infectious Disease Dynamics – Journal Club/Seminar	ISPM	special schedule		ISPM
Inflammation and Cell Trafficking Journal Club	TKI	special schedules		TKI
Musculoskeletal Biology. Progress Reports & Journal Club	DCR	special schedule		DKF
NCCR RNA and Disease Seminar Series	NCCR RNA and Disease	special schedules		NCCR
Paediatric Epidemiology – Journal Club	ISPM	special schedule		ISPM
Pharmacology Seminars	Institute of Pharmacology	Wed 12:15-13:15		PKI
Seminar: Applied Ethology and Animal Welfare	Animal Welfare Division, DCR-VPH, Vetsuisse Bern	Thur 16:00 bi-weekly		Animal Welfare
Spatial Epidemiology – Journal Club/Seminar	ISPM	special schedule	1.0 (special cond.)	ISPM
Stem Cell Lunch Seminar	SCRM	special schedules		SCRM
UniBE Cluster for Cardiovascular Research	DCR	special schedules		DKF
**Serial numbers refer to electronic list of lectures, please see: https://www.ksl.unibe.ch/KSL/veranstaltungen?0				