Course catalogue, fall semester 2024

search results faculty/field "Faculty of Health Sciences and Medicine", Study level "Bachelor, Master", language "Englisch", semester "HS24"

courses

code	type	lecturer	title	date	room	page
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HS241015	VLUEB	Boes	Applied Health Economics and Econometrics	we. Tu, 09:15 - 12.00	3.A05	4
HS241045	MSE	Brinkhof; Anderson / Feller	Longitudinal and Life Course Epidemiology		div.	5
HS241653	VLS	Burger	Recreation by Learning applications to concentrate on self-relaxation - Group 3 (english)		4.B55	6
HS241048	VLS	Colledge	Mental Health	we. Mo, 16:15 - 18.00	HS 3	7
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HS241289	VL	Dawson-Townsend	Operations Management in Healthcare	we. Th, 10:15 - 12.00	div.	9
HS241288	VLS	Dawson-Townsend / Kauer	Healthcare Financing Design	we. Th, 08:15 - 10.00	4.B51	10
HS241058	MSE	Dawson-Townsend / Lordemus / Strobl / Weisstanner	Topics in Health and Social Policy		div.	11
HS241038	VL	Diviani / Zanini	Infodemic Management	we. Th, 12:30 - 14.00	div.	11
HS241027	MSE	Diviani; Mantwill	Evidence-Informed Policy and Stakeholder Dialogue		div.	13
HS241635	MSE	Fechner	Statistical Learning Models for the Health Sciences in R	we. Tu, 12:30 - 14.00	div.	14
HS241287	VL	Grübner	Quantitative methods I	we. Mo, 10:15 - 12.00	div.	15
HS241043	MSE	Gut	Introduction to Public Health	we. We, 08:15 - 12.00	div.	16
HS241016	VL	Hofstetter Furrer / Kauer	Basic Research Methods	we. Fr, 08:15 - 12.00	div.	16
HS241312	MSE	Lehnick	Clinical Trials - Elements and Ethics	we. Th, 16:15 - 18.00	div.	18
HS241032	VL	Lordemus	Global Health Economics	we. Th, 10:15 - 12.00	div.	20
HS241057	MSE	Michel	Stress, Coping and Health		div.	21
HS241041	VL	Montoya	Introduction to Artificial Intelligence	we. Th, 14:15 - 16.00	div.	22
HS241036	MSE	Pacheco Barzallo / Gemperli	Health Systems and Services	we. Tu, 12:30 - 16.00	div.	23
HS241054	MSE	Reinhardt	Public Health and Social Impact of Epidemics: COVID-19 as a case in point		ZOOM	24
HS241663	SOV	Roser	Mathematical foundations of health sciences (digital requirement)		div.	25
HS241053	MSE	Rubinelli	Professional Development	we. We, 12:30 - 14.00	div.	26
HS241039	VL	Rubinelli	Institutional Health Communication	we. Th, 14:15 - 16.00	div.	26
HS241056	VL	Rubinelli	Scientific Communication	we. We, 14:15 - 16.00	div.	28

HS241037	MSE	Sabariego Tomas / Hodel	Health, Person, Society	we. Th, 08:15 - 12.00	div.	29
HS241052	MSE	Scheel-Sailer	Principles and Practice of Clinical Quality Management		div.	30
HS241374	RGV	Scherer Philippe	Faculty Lectures in Health Sciences and Medicine		HS 9	30
HS241013	VL	Schumacher Dimech / Volm	An Introduction to Gender Medicine: Multidisciplinary Perspectives	we. Mo, 14:15 - 16.00	HS 7	31
HS241042	VL	Seijas Bermudez	Introduction to Clinical Rehabilitation	we. We, 14:15 - 16.00	div.	32
HS241026	MSE	Stoyanov / Flück / Gemperli	Evidence-Based Medicine and its Roots		div.	33
HS241035	VLS	Weisstanner	Health Inequality and Public Policy	we. Mo, 12:30 - 14.00 we. Mo, 10:15 - 12.00	div.	33
HS241018	VLUEB	Zito	Basics of Neuroscience: From Brain to Cognition	we. Tu, 08:15 - 10.00	div.	35

Basics in Clinical Medicine

lecturer	Prof. Dr. med. Reto Babst Dr. med. Christian Schirlo, MME
type of course	Master seminar
code	HS241017
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 08:15 - 12:00, 4.B55 Tu, 24.09.2024, 09:15 - 12:00, 4.B55 Tu, 01.10.2024, 08:15 - 12:00, 4.B55 Tu, 08.10.2024, 08:15 - 12:00, 4.B55 Tu, 15.10.2024, 08:15 - 12:00, 4.B55 Tu, 22.10.2024, 08:15 - 12:00, 4.B55 Tu, 29.10.2024, 08:15 - 12:00, LUKS Haus 10 4.02 HS Rotsee 2 Tu, 29.10.2024, 08:15 - 12:00, LUKS Haus 10 4.01 HS Rotsee 1 Tu, 05.11.2024, 08:15 - 12:00, 4.B55 Tu, 19.11.2024, 08:15 - 12:00, 4.B55 Tu, 26.11.2024, 08:15 - 12:00, 4.B55 Tu, 03.12.2024, 08:15 - 12:00, 4.B55 Tu, 10.12.2024, 08:15 - 12:00, 4.B55
further dates	Mandatory for all students.
duration	4 hours per week per semester
course content	This course provides an introduction to the roles of physicians according to the CanMEDs roles integrated in PROFILES, the framework of learning objectives for medical students in Switzerland. Moreover, the course describes basic concepts of clinical medicine, with a particular focus on evidence-based medicine. Based on exemplary cases, epidemiologically relevant diseases (e.g. diabetes, obesity, cardiovascular diseases, drug abuse, acute and degenerative locomotor disease, carcinoma, and so on), their pathophysiology, symptoms, diagnostic steps, and treatment options will be discussed. In addition, the perspective of interprofessional collaboration in patient care will be described. We will also look at the effects and consequences of health conditions for the individual patient, the involved relatives and their daily life.
learning objectives	After completing the course, the participants are able: a. to describe the different roles of physicians and to discuss basic concepts in clinical medicine (evidence-based medicine, clinical reasoning) b. to explain the consequences of disease for patients and their families, and to understand and integrate their perspective c. to gain an overview of epidemiologically relevant disease entities, their main pathophysiological mechanisms and symptoms based on the anatomical and physiological basics
prerequisites	Overall grade of 4.0 or better.
language	English
limitation	priority Master Health Sciences students.
registration	https://elearning.hsm-unilu.ch/course/view.php?id=745
exam	Final written assignment: structured patient / case presentation based on the roles of physicians according to the CanMEDs system.
type of exam	Final written assignment; structured patient / case presentation. / 6 Credits
note	Teaching method(s): Longitudinal course with interactive lectures, group work, interactive Q&A sessions and discussions of the patient cases.
Auditors	Yes
contact	reto.babst@unilu.ch / christian.schirlo@unilu.ch
material	Teaching material is based on slides, worksheets, and selected book chapters. Teaching material is provided via the e-learning platform moodle.

Introduction to Python for Healthcare

lecturer	Ass.-Prof. Christian Frederik Baumgartner
type of course	Lecture
code	HS241684
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 14:15 - 18:00, HS 3 Tu, 24.09.2024, 14:15 - 18:00, HS 3 Tu, 01.10.2024, 14:15 - 18:00, HS 3 Tu, 08.10.2024, 14:15 - 18:00, HS 3 Tu, 15.10.2024, 14:15 - 18:00, HS 3 Tu, 22.10.2024, 14:15 - 18:00, HS 3 Tu, 29.10.2024, 14:15 - 18:00, HS 3 Tu, 05.11.2024, 14:15 - 18:00, HS 3 Tu, 12.11.2024, 14:15 - 18:00, HS 3 Tu, 19.11.2024, 14:15 - 18:00, HS 3 Tu, 26.11.2024, 14:15 - 18:00, HS 3 Tu, 03.12.2024, 14:15 - 18:00, HS 3 Tu, 10.12.2024, 14:15 - 18:00, HS 3 Tu, 17.12.2024, 14:15 - 18:00, HS 3 Th, 16.01.2025, 13:15 - 15:15, HS 10 (Examination)
duration	4 hours per week per semester
learning objectives	• Understand the fundamentals of Python programming, including syntax, data types, and control structures. • Develop the ability to write Python scripts for basic data manipulation and analysis. • Gain proficiency in using Python libraries such as Pandas, Matplotlib, and Scikit-Learn for healthcare data analysis. • Apply Python programming skills to real-world healthcare problems and datasets. Note: Basic Python skills will be a requirement for the Advanced Machine Learning course which is planned for FS 2025
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=807
exam	Course assessment. The course will be assessed with three types of learning evaluations: - Completion of weekly hands-on exercises (20%) - Written exam on the basics of Python (50%) - Quality of work and presentation of the final project (30%)
type of exam	Exercises, exam, presentation / 6 Credits
note	Teaching methods: • Lectures: Weekly lectures to introduce and explain core concepts. • Weekly Hands-On Sessions: Practical exercises and coding sessions to apply concepts learned in lectures. • Project Work: A final project to synthesize learning and demonstrate practical application in a healthcare context. The final project will be conducted in the format of a machine learning competition where students will try to obtain the best possible prediction performance on a real-world medical dataset. Please note that the course will *not* be graded based on the ranking in this competition. • Presentations: Opportunities for students to present their final project and receive feedback
Auditors	No
contact	christian.baumgartner@unilu.ch
material	The lecture slides, exercise sheets as well as the student presentations will be made available to all students.
literature	The course is loosely based on the book “Python for Data Analysis” by Wes McKinney (3rd edition). However, students are not required to purchase the book.

Applied Health Economics and Econometrics

lecturer	Prof. Dr. Stefan Boes
type of course	Lecture/Exercise
code	HS241015
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 09:15 - 12:00, 3.A05 Tu, 24.09.2024, 09:15 - 12:00, 3.A05 Tu, 01.10.2024, 09:15 - 12:00, 3.A05 Tu, 08.10.2024, 09:15 - 12:00, 3.A05 Tu, 22.10.2024, 09:15 - 12:00, 3.A05 Tu, 05.11.2024, 09:15 - 12:00, 3.A05 Tu, 12.11.2024, 09:15 - 12:00, 3.A05 Tu, 19.11.2024, 09:15 - 12:00, 3.A05 Tu, 26.11.2024, 09:15 - 12:00, 3.A05 Tu, 03.12.2024, 09:15 - 12:00, 3.A05 Tu, 10.12.2024, 09:15 - 12:00, 3.A05 Tu, 17.12.2024, 09:15 - 12:00, 3.A05
duration	4 hours per week per semester
course content	The course introduces key methods used in applied health economic and policy research. Theoretical and empirical approaches will be discussed to study specific phenomena, with a focus on quantitative methods and the use of appropriate research designs to inform the questions of interest. Topics include describing and summarizing health data, the demand for health and health care, socioeconomic inequalities in health, public opinions on health and social policies, the dynamics of health and healthcare utilization, and the empirical evaluation of public policy interventions, such as smoking bans, disability insurance, cost-sharing in health insurance, self-dispensation of physicians, and the financing of inpatient care.
learning objectives	The course has three main objectives: (i) to learn and practice the methodology needed to conduct applied research in health economics and health policy; (ii) to apply theoretical and empirical approaches to study the healthcare market and to evaluate public policy interventions; (iii) to discuss and critically assess current research in the field. The course focuses on applied econometric tools, i.e., the management and use of real data will be an integral part of the learning experience. Please make sure that you have Stata installed on your computer, as we will go through various data examples to practice the material. The current license can be obtained from the university's IT (helpdesk@unilu.ch).
prerequisites	Students are assumed to be familiar with basic statistics, including probability theory; for a refresher, see Appendices A, B, and C in Wooldridge (2019). Students should have a basic knowledge of regression, and I assume familiarity with Stata (basic syntax).
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=784
exam	Empirical homework assignment
type of exam	Empirical homework assignment / 6 Credits
note	Teaching methods: Blended learning with lectures, tutorials, and in-class presentations
Auditors	Yes
contact	stefan.boes@unilu.ch
material	Slides, scientific articles, selected book chapters, data and software code All teaching material will be provided via the e-learning platform moodle

Longitudinal and Life Course Epidemiology

lecturer	Dr. Martin Brinkhof Dr. sc. Collene Anderson Anita Feller, PhD
type of course	Master seminar
code	HS241045
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Mo, 30.09.2024, 14:15 - 18:00, 3.B58 Mo, 07.10.2024, 14:15 - 18:00, 3.B58 Mo, 14.10.2024, 14:15 - 18:00, 3.B58 Mo, 21.10.2024, 14:15 - 18:00, 3.B58 Mo, 04.11.2024, 14:15 - 18:00, 3.B58 Mo, 18.11.2024, 14:15 - 18:00, 3.A05 Mo, 02.12.2024, 14:15 - 18:00, 3.A05 Tu, 21.01.2025, 08:15 - 09:45, HS 9 (Examination)
further dates	The prerequisites include a basic knowledge of epidemiology and statistics, including linear and logistic regression, as covered in the 'Statistics and Epidemiology' and 'Quantitative Methods' courses at the University of Lucerne Health Sciences program, or other equivalent courses.
duration	2 hours per week per semester
course content	The seven blocks will cover the following issues: Block 1: Through the historical lens, students will learn to shift from individual towards population thinking. The historical perspective will particularly set the student up towards understanding the demand and rationale for the progression towards a comprehensive LCE approach. Blocks 2 and 3: The importance of theoretical and conceptual frameworks for causal thinking; the link between study design and strength of epidemiological evidence; and an introduction to causal inference through the application of Directed Acyclic Graphs. Block 4: This session will go more in depth on the framework of prognostic research, including the aspects of internal and external validity, and provide an overview of prognostic modelling and its applications. Block 5: This session will introduce students to the building blocks of life course epidemiology and subsequently underscore the need to employ life course methodology to gain a comprehensive understanding of functioning, disability, and health. Blocks 6 and 7: Bringing everything together: connecting study design to data analysis, student presentations.
tags	Sustainability
e-learning	All teaching material (except books) will be provided via the e-learning platform Moodle.
learning objectives	Life Course Epidemiology (LCE) is an evolving field of epidemiology that is concerned with the long-term biological, behavioral and psychosocial processes that link adult health and disease risk to exposures during earlier time periods. LCE aims to identify how accumulation of risk over time can impact disability, disease and mortality as well as identify targets for preventive health care. LCE is vital to public health as it provides the comprehensive evidence-base needed to inform evidence-based practice and policy decisions. Researchers involved in LCE are concerned with the development of formal, conceptual frameworks that enable a meaningful description of functioning, morbidity and life expectancy within and across populations, as well as over time. An understanding of study design; data collection and statistical analysis, in particular analysis methods for appropriately handling longitudinal data; the interpretation and dissemination of results (peer-reviewed publication); as well as implementation of results into practice is essential for the life course epidemiologist. In the seven blocks of “Longitudinal and Life Course Epidemiology,” students will learn: 1) Epidemiological theory and methodology: We explain how epidemiological approaches have evolved over the past 350 years in order to provide a reliable evidence base for medical practice and health policy. Highlights will include the shift from individual to group level thinking, and connecting cause and consequence. 2) Causal inference: Through the application of Directed Acyclic Graphs. 3) The significance of classification systems, conceptual frameworks and methodologies for the comprehensive description of functioning, morbidity and mortality over the lifespan. 4) The framework of prognostic research and its application. 5) Insight into longitudinal and life course study methodology. .
prerequisites	Interest, enthusiasm, and drive to understand epidemiology and public health.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=770
exam	Assessments will include homework exercises, a research proposal and a short written exam at the end of the course. In addition, extra credit can be earned through voluntary presentations in class.
type of exam	Assessments will include presentations in class, homework exercises, and a written final examination / 3 Credits
note	Teaching method(s): Interactive lectures incorporating in-class group discussions, practical exercises, and presentations, reinforced with self-teaching (home preparation).
Auditors	Yes
contact	martin.brinkhof@paraplegie.ch / collene.anderson@doz.unilu.ch / anita.feller@doz.unilu.ch
material	Publications and excerpts from books will serve as basis for individual reading.
literature	Will be announced well before start of the course.

Recreation by Learning applications to concentrate on self-relaxation - Group 3 (english)

lecturer	PD Dr. med. Dr. rer. nat. Pascal H.M. Burger, MME, MHBA
type of course	Lecture/Seminar
code	HS241653
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Sa, 26.10.2024, 08:15 - 16:00, 4.B55
further dates	Course in German 2x and in English 1x, course block 1 Saturday each
duration	1 hour per week per semester
course content	Theory on hypnosis as well as autogenic training (AT) and progressive muscle relaxation (PMR) as examples for mind-body-techniques that were and are used in different medical fields. Several sessions with active training of AT and PMR with discussions about the individual effects on the course participants. Goal is to get students aware of the topic of mental health, teach them two well established and provenly effective relaxation techniques as options for the prevention and treatment of mental health problems and have them experience the physiological effects of those techniques. Potentially also giving them a long term option to apply by themselves to achieve stress reduction and burnout prevention.
learning objectives	Preface: The students acquire knowledge about and concrete experience with two relaxation techniques: autogenic training and progressive muscle relaxation Learning objectives: - The students acquired knowledge about the historic backgrounds and know how to evaluate relaxation-/mind-body-techniques in the context of medicine - The students know the physiological effects, indications/contra-indications, limitations and non-/therapeutic applications and for relaxation-/mind-body-techniques - The students experienced the effects of the relaxation-techniques themselves and have an have the capacity to apply the techniques by themselves - The students develop an awareness for the topic of mental health issues and burnout prevention and its application in the treatment of their patients as well as for themselves as members of a risk group within society (medical professionals)
language	English
limitation	*** Important: Max. 15 participants. The limit is administered via MOODLE according to chronological order or registration. From September 2, 2024 at 12:00 noon it is possible to register via MOODLE. Registration deadline ends on October 16, 2024. As soon as 15 participants are registered, the registration window will be closed automatically ***.
registration	https://elearning.hsm-unilu.ch/course/view.php?id=798
exam	Reflection on the experience with relaxation techniques This course is credited in the additional achievements
type of exam	Reflection on the experience with relaxation techniques / 1 Credits
note	Teaching methods: Short ppt-based talks and as many relaxation exercises in the group setting as possible.
Auditors	No
contact	Pascal.Burger@triaplus.ch / pascal.burger@doz.unilu.ch
literature	- J.H. Schultz: Autogenes Training Das Original-Übungsbuch: Die Anleitung vom Begründer der Selbstentspannung - K. Thomas: Praxis des Autogenen Trainings Selbsthypnose nach I.H. Schultz: Grundstufe / Formelhafte Vorsätze / Oberstufe - D. A. Bernstein, T. D. Borkovec, L. P. Ullmann: Entspannungs-Training: Handbuch der 'progressiven Muskelentspannung' nach Jacobson

Mental Health

lecturer	Dr. Flora Colledge
type of course	Lecture/Seminar
code	HS241048
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Mo, 16.09.2024, 16:15 - 18:00, HS 3 Mo, 23.09.2024, 16:15 - 18:00, HS 3 Mo, 30.09.2024, 16:15 - 18:00, HS 3 Mo, 07.10.2024, 16:15 - 18:00, HS 3 Mo, 14.10.2024, 16:15 - 18:00, HS 3 Mo, 21.10.2024, 16:15 - 18:00, HS 3 Mo, 28.10.2024, 16:15 - 18:00, HS 3 Mo, 04.11.2024, 16:15 - 18:00, HS 3 Mo, 11.11.2024, 16:15 - 18:00, HS 3 Mo, 18.11.2024, 16:15 - 18:00, HS 3 Mo, 25.11.2024, 16:15 - 18:00, HS 3 Mo, 02.12.2024, 16:15 - 18:00, HS 3 Mo, 09.12.2024, 16:15 - 18:00, HS 3 Mo, 16.12.2024, 16:15 - 18:00, HS 3
duration	2 hours per week per semester
course content	- Definition of mental health and contributing factors - Categorization and diagnosis of mental and personality disorders - Affective disorders - Personality disorders - Eating disorders - Addictive disorders - Mental health programmes and promotion - Neurobiology
learning objectives	Switzerland is a country with some of the most progressive mental health treatment strategies in the world. However, it has also seen some of the worst outbreaks of mental health disorders in recent history, and a quarter of the population reports suffering from poor mental health. Switzerland is therefore fascinating country in which to study the question of what contributes to our mental health, and the factors which can damage it. This course provides a detailed analysis of mental health and mental illness. Students will learn about good mental health, the various causes of poor mental health and mental disorders, and specific psychiatric and personality disorders. Diagnostic criteria for these disorders will be addressed, and sociocultural components will be explored. Specific attention will be paid to prevalence rates, treatment options, and mental health promotion in Switzerland. Independent study and pursuing individual projects are key features of this course. Students will be given the freedom to choose the topic for their final assignment, and encouraged to carry out original research on innovative questions.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=767
exam	The course is graded on a scale of 1-6. The final grade is the cumulative weighted score of the following components: - Regular, active participation in discussion of a scientific paper (“Journal Club”). (20%) - Short individual presentation on chosen topic. (20%) - Final paper – option to choose between case study, literature review or interview format. (60%) The paper should be 2500-2700 words long, excluding tables and references.
type of exam	Journal Club, individual presentation, final paper / 3 Credits
note	Teaching format: - Lecture - Group presentations - Independent reading - Group discussion
Auditors	No
contact	flora.colledge@unilu.ch
material	- Articles and materials will be provided via Moodle

Adapted & Rehabilitative Exercise & Physical Activity

lecturer	Dr. Flora Colledge
type of course	Lecture/Seminar
code	HS241502
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Mo, 16.09.2024, 14:15 - 16:00, HS 3 Mo, 23.09.2024, 14:15 - 16:00, HS 3 Mo, 30.09.2024, 14:15 - 16:00, HS 3 Mo, 07.10.2024, 14:15 - 16:00, HS 3 Mo, 14.10.2024, 14:15 - 16:00, HS 3 Mo, 21.10.2024, 14:15 - 16:00, HS 3 Mo, 28.10.2024, 14:15 - 16:00, HS 3 Mo, 04.11.2024, 14:15 - 16:00, HS 3 Mo, 11.11.2024, 14:15 - 16:00, HS 3 Mo, 18.11.2024, 14:15 - 16:00, HS 3 Mo, 25.11.2024, 14:15 - 16:00, HS 3 Mo, 02.12.2024, 14:15 - 16:00, HS 3 Mo, 09.12.2024, 14:15 - 16:00, HS 3 Mo, 16.12.2024, 14:15 - 16:00, HS 3
duration	2 hours per week per semester
course content	This course will include the following topics: • Guidelines for Adapted Physical Activity • Rehabilitation • Older adults • Pregnancy • Control and coordination impairment • Visual impairment • Spinal cord injury • Parasport
learning objectives	Being sufficiently physically active is an essential component of human health. International recommendations for regular physical activity are identical for all adults. However, the barriers for individuals with physical or mental impairments, or facing health-compromising conditions, mean that engaging in sufficient physical activity is frequently a significant challenge. This course addresses recommendations, training protocols, and current practice for individuals engaging in Adapted Physical Activity. Return to movement during rehabilitation, assessments for feasible training programmes, and elite parasport will be addressed.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=746
exam	The course is graded on a scale of 1-6. The final grade is the cumulative weighted score of the following components: - Regular, active participation in discussion. (20%) - Short individual presentation on chosen topic. (20%) - Final paper – report on an APA programme of choice. (60%) The paper should be 2500-2700 words long, excluding tables and references.
type of exam	Active participation, presentation, paper / 3 Credits
Auditors	No
contact	flora.colledge@unilu.ch
material	- Articles and materials will be provided via Moodle

Operations Management in Healthcare

lecturer	Dr. sc. Kathryn Ann Dawson-Townsend
type of course	Lecture
code	HS241289
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Th, 19.09.2024, 10:15 - 12:00, E.508 Th, 26.09.2024, 10:15 - 12:00, E.508 Th, 03.10.2024, 10:15 - 12:00, E.508 Th, 10.10.2024, 10:15 - 12:00, E.508 Th, 17.10.2024, 10:15 - 12:00, E.508 Th, 24.10.2024, 10:15 - 12:00, E.508 Th, 14.11.2024, 10:15 - 12:00, E.508 Th, 21.11.2024, 10:15 - 12:00, HS 2 Th, 28.11.2024, 10:15 - 12:00, E.508 Th, 05.12.2024, 10:15 - 12:00, Externer Standort Th, 12.12.2024, 10:15 - 12:00, E.508 Th, 19.12.2024, 10:15 - 12:00, E.508 Mo, 13.01.2025, 13:15 - 14:45, HS 1 (Examination)
duration	2 hours per week per semester
course content	The course will cover a variety of topics that are related to how work processes can be documented, analyzed, redesigned/improved, and implemented. These topics include: - Operations analysis and business process management - Lean methods / Toyota Processing System - Automation in healthcare, health-related robotics - Design Thinking (including a site visit to a prototyping zone) - Supply Chain Management - Sustainability in Healthcare - Capacity Management - Implementation and evaluation of changes and decisions
tags	Sustainability
learning objectives	Healthcare is ultimately delivered and experienced through a myriad of processes, including a doctor's office visit and associated treatment(s), an operation in a hospital, a visit to a pharmacy for medication, a physical therapy appointment, etc. Healthcare products (medical devices, pharmaceuticals, etc.) are developed and produced through manufacturing processes. Health insurance claims and phone calls are also handled through processes. All of these processes have inputs, outputs, and rely on one or more resources to be completed. Whether we are looking at new medications and treatments being developed, evidence-based care that is being standardized, or innovative ideas under development, they must be ultimately operationalized, in which someone determines the best way to deliver them to the end customer/patient in reality. This course will introduce students to the study of processes in healthcare along with various methods to improve these processes, depending on the target outcome: lower cost, lower processing time, higher quality, lower carbon footprint, better customer/patient experience, or a combination of these targets. There will also be a focus on the topic of capacity management (forecasting demand and planning capacity) as part of managing a hospital's daily operations. The semester will end with consideration for the implementation and evaluation of process changes and related business decisions.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=787
exam	- Written final exam (80%) - Active in-class participation [discussions and exercises] (20%)
type of exam	Participation, exam / 3 Credits
note	Lehrmethoden: - Lectures (slides) - Seminar discussions (case studies, assigned readings) - Small group exercises (in class)
Auditors	No
contact	kathryn.dawson@unilu.ch
material	- Will be provided via Moodle

Healthcare Financing Design

lecturer	Dr. sc. Kathryn Ann Dawson-Townsend Lukas Kauer, PhD
type of course	Lecture/Seminar
code	HS241288
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 19.09.2024, 08:15 - 10:00, 4.B51 Th, 26.09.2024, 08:15 - 10:00, 4.B51 Th, 03.10.2024, 08:15 - 10:00, 4.B51 Th, 10.10.2024, 08:15 - 10:00, 4.B51 Th, 17.10.2024, 08:15 - 10:00, 4.B51 Th, 24.10.2024, 08:15 - 10:00, 4.B51 Th, 21.11.2024, 08:15 - 10:00, 4.B51 Th, 28.11.2024, 08:15 - 10:00, 4.B51 Th, 05.12.2024, 08:15 - 10:00, 4.B51 Th, 12.12.2024, 08:15 - 10:00, 4.B51
duration	2 hours per week per semester
course content	All relevant payment models in healthcare financing for providers, insurers, and patients are presented and reviewed. The course also includes an overview of the Swiss context. Approximately 6 weeks of sessions with inputs from the lecturers are planned and then several weeks of presentations in the final weeks of the semester (exact dates to be determined at the start of the course). Students (working in small groups) will present a case study of an innovative payment model found in another country outside of Switzerland (what it is, when implemented, what are the goals, why implemented [what was prior payment model, etc.], results/outcomes) and also present how this type of model could be implemented in Switzerland (or another country, pending approval by the lecturers). The presentation will include what facilitators exist and what barriers would need to be overcome for successful implementation. Students will be graded based on their presentation, a summary of their case study (up to 2000 words), and on participation in class discussions.
learning objectives	Continued cost pressures on all areas of healthcare delivery (inpatient, outpatient, pharmaceuticals) call into question how healthcare payment can be used to bring new incentives into the delivery of care and related payment mechanisms. Recent innovative payment models have caught the attention of policy makers with promising results. These results may be related to the specific healthcare system they were developed in and/or the positive selection (bias) of providers and/or consumers. The main learning outcome of this course is to assess innovative payment models from different contexts and identify crucial barriers and facilitators that would need to be considered before a proposed implementation in the Swiss market. Students will be able to explain: • various models of healthcare payment: Fee-for-service, capitation, pay for performance, value-based health care, premium design, risk adjustment, innovations in managed care design) • for each model, their pros and cons, evidence of their impact
language	English
limitation	- Max. 24 participants. The limit is administered via MOODLE according to chronological order. From September 2, 2024 at 12:00 (noon) it is possible to register via MOODLE. As soon as 24 participants are registered, the registration window will be closed automatically. If the course is already full and you would like to be put on the waiting list, please send an email to the lecturer to ask to be put on the wait list.
registration	https://elearning.hsm-unilu.ch/course/view.php?id=790
exam	- Small group presentation (50%) - Short group paper (up to 2000 words) summarizing presentation (40%) - Active participation in class discussions (10%)
type of exam	Paper / 3 Credits
note	Teaching methods: - Lecture slides - Seminar discussions - In-class presentations
Auditors	No
contact	kathryn.dawson@unilu.ch / lukas.kauer@unilu.ch
material	All material will be provided via Moodle

Topics in Health and Social Policy

lecturer	Dr. sc. Kathryn Ann Dawson-Townsend Dr. Samuel Lordemus Dr. rer. pol. Renate Susanna Strobl Ass.-Prof. David Weisstanner
type of course	Master seminar
code	HS241058
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Mo, 23.09.2024, 14:15 - 16:00, HS 11 Fr, 15.11.2024, 08:15 - 16:00, 4.B51
duration	2 hours per week per semester
course content	In this seminar, students will explore various topics in health and social policy. Examples range from the demand and supply side of health care markets, and the behavior of key actors like physicians and hospitals, to insurance, government regulation, market design, and inequities and disparities. Based on research papers recently published in the NBER working paper series, students will prepare a term paper and present it in class. Students will also be asked to discuss another student's work. Further details on the topics, the expectations towards the term paper, the oral presentation, and the discussion will be given during the introductory meeting.
tags	Sustainability
e-learning	All teaching material will be provided via the e-learning platform.
learning objectives	i) to use economic reasoning and understand empirical techniques to analyze problems in health and social policy, ii) to be familiar with main research themes in the field, iii) to evaluate and draw conclusions from current scientific literature, iv) to practice scientific presentation and discussion on a competitive academic level on different topics.
prerequisites	Health Economics, Quantitative Methods
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=785
exam	Grade 4.0 or better Term paper (50%), presentation of paper (30%), discussion of another student's paper/presentation (20%)
type of exam	Term paper (50%), presentation of paper (30%), discussion of another student's paper/presentation (20%). / 3 Credits
note	Teaching methods: Seminar with introductory session and student presentations/discussions. Health Economics, Quantitative Methods
Auditors	No
contact	david.weisstanner@unilu.ch
material	Scientific articles and selected book chapters

Infodemic Management

lecturer	Nicola Diviani, PhD Dr. phil. Claudia Zanini
type of course	Lecture
code	HS241038
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 03.10.2024, 12:30 - 14:00, HS 3 Th, 10.10.2024, 12:30 - 14:00, HS 3 Th, 17.10.2024, 12:30 - 14:00, HS 3 Th, 24.10.2024, 12:30 - 14:00, HS 3 Th, 31.10.2024, 12:30 - 14:00, HS 3 Th, 14.11.2024, 12:30 - 14:00, HS 3 Th, 28.11.2024, 12:30 - 14:00, HS 3 Th, 05.12.2024, 12:30 - 14:00, HS 3 Th, 12.12.2024, 12:30 - 14:00, HS 3 We, 22.01.2025, 13:00 - 17:00, 4.B47 (Examination) Th, 23.01.2025, 13:00 - 17:00, 4.B47 (Examination)
duration	2 hours per week per semester
course content	In this course, students will explore the complex and dynamic landscape of infodemics and the challenges they pose for public health, crisis communication, and social media. Through a combination of lectures, case studies, and hands-on exercises, students will learn to analyze and manage infodemics by understanding their root causes and drivers, identifying the role of different stakeholders, and developing evidence-based strategies for detecting, verifying, and disseminating accurate information. The course will cover topics such as the impact of infodemics on public health, the role of media and government in infodemic management, the ethical and legal implications of infodemic management, and the communication and collaboration skills needed to manage infodemics effectively. Students will also have the opportunity to learn how to evaluate the effectiveness and impact of infodemic management interventions, and to reflect on the evolving nature of technology, society, and public health in developing a sustainable and adaptive approach to infodemic management. Overall, this course aims to equip students with the knowledge, skills, and attitudes to respond to infodemics in a responsible, evidence-based, and collaborative manner, and to contribute to building more resilient and informed communities.

learning objectives	Upon completing this course, students will be able to understand and apply strategies to effectively manage infodemics in different contexts, including public health, crisis communication, and social media. Specifically, students will: 1. Understand the causes and impacts of infodemics on public health, society, and governance. 2. Learn and apply evidence-based strategies for detecting, verifying, and disseminating accurate information in a timely and ethical manner, and to communicate and collaborate effectively with diverse stakeholders. 3. Develop a reflective and adaptive approach to infodemic management that takes into account the evolving nature of technology, society, and public health, and evaluate the effectiveness and impact of infodemic management interventions.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=779
exam	Oral exam
type of exam	Oral exam / 3 Credits
note	Teaching methods: Lectures, case studies, and hands-on exercises.
Auditors	No
contact	nicola.diviani@doz.unilu.ch / claudia.zanini@doz.unilu.ch
material	The teaching material is based on PowerPoint slides and selected readings. All learning materials are provided via the E-learning platform Moodle.
literature	• "Infodemics: a new challenge for public health" by David L. Heymann and Chikwe Ihekweazu, The Lancet, 2020. • "Infodemic Management: A Key Component of COVID-19 Pandemic Response" by Sunil Kumar et al., Frontiers in Public Health, 2020. • "Misinformation and Its Correction: Continued Influence and Successful Debiasing" by Stephan Lewandowsky et al., Psychological Science in the Public Interest, 2012. • "Managing the COVID-19 Infodemic: Promoting Healthy Behaviors and Mitigating Harmful Rumors" by John W. Ayers et al., Journal of Medical Internet Research, 2020. • "Information Disorder: Toward an Interdisciplinary Framework for Research and Policy Making" by Claire Wardle and Hossein Derakhshan, Council of Europe Report, 2017. • "From Information Retrieval to Infodemiology: A New Agenda for Consumer Health Research" by Gunther Eysenbach, Journal of Medical Internet Research, 2005. • "Pandemics and infodemics: The role of social media" by Liane Ströbel and Simon Hegelich, Journal of Risk Research, 2021. • "COVID-19, Conspiracy Theories, and the FiveG Technology: A Scoping Review of the Literature" by Melissa T. Buelow, Health Education & Behavior, 2020. • "Infodemiology and Infoveillance: Framework for an Emerging Set of Public Health Informatics Methods to Analyze Search, Communication and Publication Behavior on the Internet" by Gunther Eysenbach, Journal of Medical Internet Research, 2009. • "The 5 Cs of Effective Information Sharing during Epidemics" by Masahiro Kami et al., Journal of Medical Internet Research, 2020. • “A public health research agenda for managing infodemics: methods and results of the first WHO infodemiology conference” by Calleja N. et al, JMIR Infodemiology, 2021. • “WHO competency framework for health authorities and institutions to manage infodemics: its development and features” by Rubinelli S. et al, Human Resources for Health, 2022.

Evidence Informed Policy and Stakeholder Dialogue

lecturer	Nicola Diviani, PhD Sarah Mantwill, PhD
type of course	Master seminar
code	HS241027
semester	fall semester 2024
department	Health Sciences
study level	Master Doktorat
date	We, 27.11.2024, 08:15 - 12:00, 4.B01 We, 04.12.2024, 12:30 - 16:00, 4.B01 We, 11.12.2024, 12:30 - 16:00, 4.B01 We, 18.12.2024, 12:30 - 16:00, 4.B01
further dates	The course is mandatory in the Major Health Communication.
duration	block course
frequency	1 semester
course content	A learning health system relies on cyclical dynamics to identify issues in the health system, systematize relevant evidence, present alternative courses of action, collaboratively agree on the best action, and implement and monitor the change. For this process to be successful there is need for a structured dialogue between different stakeholders (e.g., representatives of the government, public health administration, health care providers, insurers and patients) to identify and understand the critical issues and collaboratively identify the best and most feasible response for implementation. As part of this course, students will simulate a stakeholder dialogue to better understand the underlying mechanisms and challenges in bridging research, policy and practice. Students will take different roles and prepare the dialogue accordingly. An introduction to frameworks of evidence-informed policy-making, argumentation theory, and to stakeholder engagement will provide the theoretical foundation. In addition to active participation in the dialogue, it is expected that students engage in a post-dialogue discussion about the achieved goals.
e-learning	Will be communicated through moodle.
learning objectives	The objectives of this course are i) to learn the basics of stakeholder engagement and argumentation theory, ii) to understand the structure and value of policy briefs in evidence-informed policy-making, and iii) to execute a stakeholder dialogue on a current issue in the healthcare system, including the in-depth study of a policy brief.
prerequisites	Grade 4.0 or better.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=782
exam	Grading for this course is based on i. active participation in the introductory class on argumentation theory and on policy briefs, including related online activities (20%), ii. preparation of a position paper depending on the assigned role prior to the stakeholder dialogue (40%), iii. active participation in the stakeholder dialogue in the assigned role and in the post-dialogue discussion (40%). A grade of 4.0 or higher is required to successfully complete the course.
type of exam	Homework assignment, active class participation / 3 Credits
note	Teaching method(s)/Indications: Lectures and simulation of a stakeholder dialogue. Literature research is required to prepare the dialogue.
Auditors	Yes
contact	nicola.diviani@doz.unilu.ch / sarah.mantwill@unilu.ch
material	All teaching material will be provided via the e-learning platform moodle.
literature	Will be communicated via the e-learning platform moodle

Statistical Learning Models for the Health Sciences in R

lecturer	Dr. rer. nat. Hanna Bettine Fechner
type of course	Master seminar
code	HS241635
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 12:30 - 14:00, 3.B52 Tu, 24.09.2024, 12:30 - 14:00, 3.B52 Tu, 01.10.2024, 12:30 - 14:00, 3.B52 Tu, 08.10.2024, 12:30 - 14:00, 3.B52 Tu, 15.10.2024, 12:30 - 14:00, 3.B52 Tu, 22.10.2024, 12:30 - 14:00, 3.B52 Tu, 29.10.2024, 12:30 - 14:00, 3.B52 Tu, 05.11.2024, 12:15 - 14:00, HS 12 Tu, 12.11.2024, 12:30 - 14:00, 3.B52 Tu, 19.11.2024, 12:30 - 14:00, 3.B52 Tu, 26.11.2024, 12:30 - 14:00, 3.B52 Tu, 03.12.2024, 12:30 - 14:00, 3.B52 Tu, 10.12.2024, 12:30 - 14:00, 3.B52 Tu, 17.12.2024, 12:30 - 14:00, 3.B52
further dates	For M. Sc. students of the Health Sciences, the course can be credited in the major Health Data Science or for the other majors in the electives.
duration	2 hours per week per semester
course content	Statistical learning models are tools for understanding and predicting data. The course introduces supervised and unsupervised learning models for regression and classification problems that have a wide range of applications in health data science. Topics include techniques for training and testing models, model selection and regularization (ridge regression and lasso), illustrated with linear and logistic regression models, nonlinear models such as k-nearest neighbors, trees and random forests, basic elements and principles of neural networks, cluster analysis, and dimension reduction with principal component analysis. For each modeling technique, there is a short theoretical introduction, followed by a practical implementation in R and the interpretation of the resulting R output. Complementary exercise sheets are provided for students to gain hands-on experience with the modeling techniques; students will present their solutions to each other. In the end of the course, students will apply their knowledge by presenting and discussing academic research papers from various fields of the health sciences (e.g., health psychology, health economics, and medicine) that contextualize the modeling techniques covered.
e-learning	Course materials are made available or linked, and solutions to the exercises and presentation slides are submitted via the e-learning platform Moodle.
learning objectives	After completing the course, students will be able to • describe the central principles and background of different modeling techniques of statistical learning and explain how they can be applied to data from the health sciences • implement the modeling techniques in the software R and interpret the results • read, present, and critically evaluate academic research papers from the health sciences that use the modeling techniques covered
prerequisites	Knowledge of descriptive statistics, data visualization, and inferential statistics (e.g., linear and logistic regression). Experience with the software R and R Studio or the willingness to acquire this knowledge before the start of the course. Please bring your own laptops with an installation of R and R Studio.
language	English
limitation	The course is limited to 14 participants. The limit will be administered via Moodle according to the chronological order of registration. From 2nd September 2024, 12:00 p.m. (noon), it will be possible to register via Moodle. As soon as 14 participants are registered, the registration window will close automatically. If you would like to be put on the waiting list, please send an email to: masterhealth@unilu.ch.
registration	https://elearning.hsm-unilu.ch/course/view.php?id=805
exam	Grading will be based on 1) the coding solution and presentation of an exercise sheet in R (50%), 2) the slides and presentation of a scientific article in which statistical learning models were used (40%), and 3) active participation including attendance and collaboration in group work and discussions during the course (10%). An overall grade of 4.0 or better is required to successfully complete the course.
type of exam	Coding solutions in R and presentation, presentation slides and presentation, active participation / 3 Credits
note	Teaching methods: Theoretical inputs, demonstrations, exercises, presentations, group work and discussions by students. For the exercises, the students will work on their own laptops on which they have installed the software R, R Studio, and topic-specific R packages.
Auditors	No
contact	hanna.fechner@unilu.ch
material	Course materials are provided or linked on Moodle.
literature	Hastie, T., Tibshirani, R., & Friedman, J. (2009). The elements of statistical learning (2nd ed.). Springer. James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). An introduction to statistical learning with applications in R (2nd ed.). Springer.

Quantitative methods I

lecturer	Dr. rer. nat. Oliver Grübner
type of course	Lecture
code	HS241287
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Mo, 16.09.2024, 10:15 - 12:00, HS 8 Mo, 23.09.2024, 10:15 - 12:00, HS 8 Mo, 30.09.2024, 10:15 - 12:00, HS 8 Mo, 07.10.2024, 10:15 - 12:00, HS 8 Mo, 14.10.2024, 10:15 - 12:00, HS 8 Mo, 21.10.2024, 10:15 - 12:00, HS 8 Mo, 28.10.2024, 10:15 - 12:00, HS 8 Mo, 04.11.2024, 10:15 - 12:00, HS 8 Mo, 11.11.2024, 10:15 - 12:00, HS 8 Mo, 18.11.2024, 10:15 - 12:00, HS 8 Mo, 25.11.2024, 10:15 - 12:00, HS 8 Mo, 02.12.2024, 10:15 - 12:00, HS 8 Mo, 09.12.2024, 10:15 - 12:00, HS 8 Mo, 16.12.2024, 10:15 - 12:00, HS 8 Tu, 21.01.2025, 08:15 - 09:15, HS 10 (Examination)
further dates	Für die Bearbeitung von Übungen während der Veranstaltung arbeiten die Studierenden an ihren eigenen Laptops, auf denen sie die Statistik Software R sowie themenspezifische R Pakete installiert haben.
duration	2 hours per week per semester
course content	Deskriptive Statistik Wahrscheinlichkeiten und Hypothesentests Untersuchung von Unterschieden und Zusammenhängen Varianzanalyse (ANOVA)
learning objectives	Statistische Verfahren, die in den Gesundheitswissenschaften verwendet werden, differenzieren, selektieren und mithilfe der Statistiksoftware R anwenden.
prerequisites	Die erfolgreiche Teilnahme an folgenden Kursen sind Voraussetzung: Mathematische Grundlagen der Gesundheitswissenschaften Statistische Grundlagen und Datenvisualisierung mit R
language	Bilingue - German / English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=792
exam	Schriftliche Prüfung
type of exam	Written exmination / 3 Credits
note	Lehrmethoden: Wöchentlich stattfindende Vorlesungen und Übungen. In den Vorlesungen erfolgt eine Wissensvermittlung anhand von Theorie und Beispielen. In den vertiefenden Übungen werden Übungsblätter zu den Themen der Vorlesung von den Studierenden bearbeitet.
contact	oliver.gruebner@unilu.ch
material	Präsentationen der Vorlesungen, Übungsmaterial und weitere Materialien für den Kurs werden auf Moodle zur Verfügung gestellt. In dieser Veranstaltung wird ein Podcast zur Verfügung gestellt.
literature	Hedderich, J., & Sachs, L. (2018). Angewandte Statistik. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-56657-2

Introduction to Public Health

lecturer	Dr. phil. Vanessa Gut
type of course	Master seminar
code	HS241043
semester	fall semester 2024
department	Health Sciences
study level	Master
date	We, 18.09.2024, 08:15 - 12:00, HS 5 We, 25.09.2024, 08:15 - 12:00, HS 5 We, 09.10.2024, 08:15 - 12:00, HS 5 We, 16.10.2024, 08:15 - 12:00, HS 5 We, 23.10.2024, 08:15 - 12:00, HS 5 We, 30.10.2024, 08:15 - 12:00, HS 5 We, 06.11.2024, 08:15 - 12:00, HS 5 We, 13.11.2024, 08:15 - 12:00, HS 5 We, 20.11.2024, 08:15 - 12:00, HS 5 We, 27.11.2024, 08:15 - 12:00, HS 5 We, 04.12.2024, 08:15 - 12:00, HS 5 We, 11.12.2024, 08:15 - 12:00, HS 5 We, 18.12.2024, 08:15 - 12:00, HS 5 Tu, 14.01.2025, 13:15 - 14:45, HS 10 (Examination)
further dates	Mandatory course for all Majors in the Master of Health Sciences.
duration	4 hours per week per semester
course content	*Block One* Introduction: what is public health? • Core concepts, frameworks, and essentials in public health services • Historical development of public health, major public health areas, and key stakeholders *Block Two* Fundamentals of Public Health • Public health monitoring and surveillance: fundamentals of epidemiology • Determinants of Health: understanding health inequalities • National health strategies • Public health action cycle *Block Three* Special topics in public health • Life course approach in public health • Community health
e-learning	Teaching material is provided via moodle.
learning objectives	The objective of this course is to give an overview of the field of public health and enable students to apply their knowledge directly to interpreting studies and designing interventions on population health. The first part of the course establishes a comprehensive understanding of the core concepts and frameworks in the field of public health. In addition, students gain an insight into the history of public health, major public health areas, and key stakeholders. The second part of the course introduces the fundamentals of public health, including epidemiology, determinants of health, and the public health action cycle. The final part of the course provides insights into specific topics of public health and public health practice.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=741
exam	Active participation and passing grade on final exam.
type of exam	Active participation during the course and written exam / 6 Credits
note	Teaching method(s): Lectures, interactive group work, practical group exercises, interactive digital quizzes, class discussions.
Auditors	Yes
contact	vanessa.gut@unilu.ch
material	Literature will be uploaded online.

Basic Research Methods

lecturer	Dr. rer. soc. Brigitte Hofstetter Furrer Lukas Kauer, PhD
type of course	Lecture
code	HS241016
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Fr, 20.09.2024, 08:15 - 12:00, 3.A05 Fr, 27.09.2024, 08:15 - 12:00, 3.A05 Fr, 04.10.2024, 08:15 - 12:00, 3.A05 Fr, 11.10.2024, 08:15 - 12:00, 3.A05 Fr, 18.10.2024, 08:15 - 12:00, 3.A05 Fr, 25.10.2024, 08:15 - 12:00, 3.A05 Fr, 08.11.2024, 08:15 - 12:00, 3.A05 Fr, 15.11.2024, 08:15 - 12:00, HS 1 Fr, 22.11.2024, 08:15 - 10:00, 3.A05 Fr, 29.11.2024, 08:15 - 12:00, 3.A05 Fr, 06.12.2024, 08:15 - 12:00, 3.A05 Fr, 13.12.2024, 08:15 - 12:00, 3.A05 Fr, 20.12.2024, 08:15 - 12:00, 3.A05 Tu, 21.01.2025, 14:15 - 16:15, HS 10 (Examination)
further dates	Part Quantitative Methods: For the exercises during the course, the students work on their own laptops, on which they have installed the statistical software RStudio and topic-specific R packages. RStudio is freely available on www.r-project.org. Details on how to familiarize yourself with the software will be provided by email in advance.
duration	4 hours per week per semester
course content	The course part Quantitative Methods covers the following topics: • Basic concepts: Measuring, estimating, testing, and forecasting • Basics of descriptive statistics: Scale levels, statistical parameters • Basics of inferential statistics: Sample and population, probabilities, random variables, and distribution families, basic elements of hypothesis testing • Investigation of differences: Procedures for one- and two-group comparisons • Analysis of dependencies: Regression and Ordinary Least Squares The course part Qualitative Methods covers the following topics: • Setting the scene: theoretical frameworks, ontological positions, main features and uses of qualitative research • Designing qualitative research: initial steps, research approaches, ethical issues • Generating data: sampling strategies, narrative and semi-structured interviews, focus groups, observation • Analysis of qualitative data: analytic strategies, processing, and coding data • Interpreting and reporting data: description, explanation, generalization in qualitative research, displaying qualitative evidence • Quality criteria in qualitative research
e-learning	Course materials are provided or linked, and exercises handed in via the e-learning platform Moodle.
learning objectives	The overarching goal of the course Basic Research Methods is for incoming students to obtain a foundation in qualitative and quantitative research methods for the start of their studies in the M. Sc. in health sciences. The main goal in the Quantitative Methods part is to understand why quantitative methods are important in health sciences and how they work. Instructions focus on statistical foundations and the basic statistical methods most commonly used in the health sciences. Students will learn how to apply them with the statistical software R. After taking this course, students • Can describe and differentiate the main approaches to quantitative data analysis • Understand basic statistical concepts such as central tendency, spread, and association • Understand principles of statistical inference • Can produce simple univariate and bivariate statistics • Can interpret results from statistical analyses of bivariate relationships and group differences In the Qualitative Methods part, students will familiarize themselves with the methodological foundations and theoretical assumptions of qualitative research. They will learn about qualitative research designs in health sciences and understand the underlying research process. Furthermore, students will be able to assess the advantages and disadvantages of common data collection and analysis methods and get to know the challenges associated with qualitative research methods.
prerequisites	Prerequisites: Basic knowledge of the software R is required. Details on how to familiarize yourself with the software will be provided by email at the end of August. Please bring your own laptop with a recent version of RStudio installed. RStudio is freely available on www.r-project.org Basic knowledge of qualitative methods and of statistics is an advantage, but not a requirement. Overall grade of 4.0 or better. The grade will be the mean of the quantitative and qualitative parts. If you do not successfully complete the course (mean < 4.0), you must repeat the entire written exam (quantitative and qualitative part). If you must retake the exam, the partial grade (20% of group work, part Quantitative Methods) you achieved during the course will be transferred for the calculation of the final grade of the repeat exam (no retake of group work possible).
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=742
exam	Part Quantitative Methods: Submission and presentation of the solutions to an exercise sheet during the semester by small groups of students (20% of the grade for the course part Quantitative Methods) and written exam during the exam session at the end of the semester (80% of the grade for the course part Quantitative Methods). Part Qualitative Methods: Written exam during the exam session at the end of the semester (100% of the grade for the course part Qualitative Methods).
type of exam	Written exmination / 6 Credits
note	Part Quantitative Methods: Every lecture is followed by an exercise session in the following week. In the lectures, the focus is on the theoretical background. In the exercises, small groups of students present their solutions in R to the exercises on topics from the previous lecture. Part Qualitative Methods: In the course, the mandatory reading and the

	input presentations form the theoretical basis for the written exam. Discussions and exercises during lecture serve to deepen the theoretical input and in part also its practical application.
Auditors	Yes
contact	brigitte.hofstetter@unilu.ch / lukas.kauer@unilu.ch
material	Lecture slides, mandatory readings, exercise materials and other documents for the course are provided or linked on Moodle.
literature	Further readings/textbooks on quantitative research: - Cappiello, L. Introduction to Statistics, bookdown.org - Diez, D., Çetinkaya-Rundel, M., Barr, C.D. (2019). OpenIntro Statistics, openintro.org/os - Field., A., Miles, J., Field, Z. (2012). Discovering Statistics Using R. Sage. - Phillips, N. D. (2018). YaRrr! The Pirate's Guide to R, bookdown.org Further readings/textbooks on qualitative research: - Bourgeault, I., Dingwall, R. & De Vries, Raymond (2010) Handbook of Qualitative Methods in Health Research. Sage (eBook). - Green, J. & Thorogood, N. (2018). Qualitative Methods for Health Research. Sage. ? Ritchie, J., Lewis, J., McNaughton Nicholls, C. & Ormston, R. (2014). Qualitative research practice: A guide for social science students and researchers (Reprint). Sage.

Clinical Trials - Elements and Ethics

lecturer	Dr. rer. pol. Dirk Lehnick
type of course	Master seminar
code	HS241312
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 26.09.2024, 16:15 - 18:00, E.509 Th, 03.10.2024, 16:15 - 18:00, E.509 Th, 10.10.2024, 16:15 - 18:00, E.509 Th, 17.10.2024, 16:15 - 18:00, E.509 Th, 24.10.2024, 16:15 - 18:00, E.509 Th, 31.10.2024, 16:15 - 18:00, E.509 Th, 07.11.2024, 16:15 - 18:00, E.509 Th, 14.11.2024, 16:15 - 18:00, E.509 Th, 21.11.2024, 16:15 - 18:00, E.509 Th, 28.11.2024, 16:15 - 18:00, E.509 Th, 05.12.2024, 16:15 - 18:00, E.509 Th, 12.12.2024, 16:15 - 18:00, E.509 Th, 19.12.2024, 16:15 - 18:00, E.509 Fr, 17.01.2025, 12:15 - 13:45, HS 9 (Examination)
further dates	Major Course for MSc Health Sciences students (can be credited as a core course in the majors Health Services Research and Health Data Science; also open to students from other majors or study programs).
duration	2 hours per week per semester
course content	The course will focus in particular on drug trials, which for various reasons set the gold standard in evidence-based medicine and the ethical and regulatory requirements for clinical trials. The lecturer has also worked in commercial drug development for many years. Many real examples and case studies will therefore be used to learn the basics of such studies and to discuss ethical issues. Studies from very different indications will be covered and topics such as diversity (ethnic, sex/gender, age groups), vaccination studies, gene therapy/genome editing, role of AI will also be discussed. We will recognize how a regulatory framework helps to ensure the well-being of the study participants and furthermore the integrity and quality of the trials, their data and the resulting scientific findings and conclusions. Clinical Trials: • Interventional vs. non-interventional studies • Trials involving medicinal products / Phases of drug development • Study objectives • Typical study designs • Randomization, blinding, study documentation, sample size determination

	Good Clinical Practice (GCP) and Research Ethics: • Ethical principles for research • History of clinical research ethics (incl. case studies) • Good Clinical Practice guidelines / legal framework • Roles, tasks and responsibilities in clinical studies as defined by ICH-GCP • Patient information and consent • Clinical trial application / Ethics committees / Competent authorities • Scientific requirements and practical implementation issues • Quality management in clinical trials • Patient information and consent • Data collection and handling / Statistical planning and analysis • Adverse events and safety reporting
tags	Gender/diversity
learning objectives	• Gain basic knowledge of principles of clinical trials • Understand the historical context and main concepts of research ethics and Good Clinical Practice (GCP) guidelines • Know roles, tasks and responsibilities in clinical studies as defined by ICH-GCP
prerequisites	Diligence and eagerness to learn.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=773
exam	The course credits will be earned by passing a written exam in at the end of the semester or, in case of failure of the written test, the passing of a compensation test during the subsequent semester.
type of exam	written exam / 3 Credits
note	Teaching method(s): The module mainly consists of in-class teaching complemented by practical learning sessions and problem discussions. Slides and materials of in-class teaching sessions will be electronically available for recapitulation. Parts of the course will require self-study conducted between in-class lectures based upon case studies and documents which will be electronically available or will be handed out during the sessions.
Auditors	No
contact	dirk.lehnick@unilu.ch
material	All teaching material incl. case studies will be provided via the learning management system or as handout.
literature	Swiss Academy of Medical Sciences (SAMS) handbook “Research with human subjects” (2nd edition, 2015) Emanuel et al. (2000) What makes clinical research ethical; JAMA 283(20):2701-2711 ICH GCP Guideline with Integrated Addendum E6(R2), Step 4 (Nov 2016)

Global Health Economics

lecturer	Dr. Samuel Lordemus
type of course	Lecture
code	HS241032
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 19.09.2024, 10:15 - 12:00, 3.B48 Th, 26.09.2024, 10:15 - 12:00, 3.B52 Th, 03.10.2024, 10:15 - 12:00, 3.B48 Th, 10.10.2024, 10:15 - 12:00, 3.B48 Th, 17.10.2024, 10:15 - 12:00, 3.B48 Th, 24.10.2024, 10:15 - 12:00, 3.B48 Th, 31.10.2024, 10:15 - 12:00, 3.B48 Th, 14.11.2024, 10:15 - 12:00, 3.B48 Th, 21.11.2024, 10:15 - 12:00, 3.B48 Th, 28.11.2024, 10:15 - 12:00, 3.B48 Th, 05.12.2024, 10:15 - 12:00, 3.B48 Th, 12.12.2024, 10:15 - 12:00, 3.B48 Th, 19.12.2024, 10:15 - 12:00, 3.B48 Mo, 13.01.2025, 13:15 - 14:45, HS 4 (Examination)
further dates	For each class, there will be a lecture that covers the main concepts and provides the theoretical context of each week's topic, and an applied part primarily from academic journals, with student presentations and class discussion. To this end, required reading will be assigned before each session. There will be set questions for each week to guide your reading; students should then be prepared to answer them in the class.
duration	2 hours per week per semester
course content	This course aims to explore in detail specialist topics related to Global Health Economics, with a particular focus on the relationship between health, poverty and development. It will enable students to examine the challenges related to the quality and delivery of healthcare in low-income countries from an economic perspective, and critically reflect on how differences in health determinants between and within countries, as well as differences in financing health systems affect the level of health and the demand for health care.
learning objectives	By the end of the course the student should be able to: • Summarize and discuss elements of the global health system, including the role of the key actors and the financing schemes • Understand and critically review studies on healthcare financing, health interventions and global health policy in low-income countries • Explain how economic, social and environmental factors determine healthcare demand and supply
prerequisites	Bachelor's degree. Some concepts of economic theory and econometrics will be reviewed in class, but students are expected to have a good knowledge of microeconomics and econometrics.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=774
type of exam	written exam / 3 Credits
note	Teaching methods: Students will be asked to read and summarize selected academic journals in order to actively participate in class discussion. They will further be asked to deliver a short presentation on a current research topic connected to Global health Economics.
Auditors	Yes
contact	samuel.lordemus@unilu.ch
material	Teaching material is based on selected articles, book chapters and slides.
literature	For each topic that will be covered in the course, a selected list of academic journals and book chapters will be distributed via the e-learning platform moodle.

Stress, coping and health

lecturer	Prof. Dr. Gisela Michel
type of course	Master seminar
code	HS241057
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Fr, 18.10.2024, 09:15 - 12:00, 3.B52 Fr, 25.10.2024, 09:15 - 12:00, 4.B01 Mo, 28.10.2024, 14:15 - 18:00, 3.B52 Fr, 08.11.2024, 08:45 - 12:00, LUKS Haus 10 4.08 HS Pilatus Mo, 11.11.2024, 14:15 - 18:00, 3.B52 Mo, 25.11.2024, 14:15 - 18:00, 3.B52 We, 22.01.2025, 08:15 - 09:45, HS 10 (Examination)
further dates	mandatory in the Major HBM
duration	block course
course content	- Historical Concepts of Stress - Biological basis of stress - Stress induction and measurement of stress - Impact of stress on health conditions - Stress, Work and Health - Introduction to Coping - Measurement tools for coping - Interventions for stress-related problems
e-learning	All teaching material (apart from books) is provided via the e-learning platform Moodle.
learning objectives	Students will get an introduction to the history of stress, physiological aspects of stress, coping and the influence on health
prerequisites	Active participation, presentation and passed final exam
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=776
exam	Active participation during the course, oral presentation and written exam
type of exam	Active participation during the course, written course work and written exam / 6 Credits
note	Teaching method(s): In class: discussions, exercises, front teaching, student presentations Self-study: reading textbook, scientific papers, preparation of presentation
Auditors	Yes
contact	gisela.michel@unilu.ch
material	The teaching material is based on PowerPoint slides, videos, scientific articles and selected book chapters. All teaching material is provided via the e-learning platform Moodle apart from the mandatory textbook.
literature	Mandatory reading: - Harrington, R. (2013) Stress, Health and Well-being – Thriving in the 21th Century. Belmont, CA: Wadsworth Publishing. Please get the book before the course starts (e.g. https://archive.org/details/rick-harrington-stress-health-and-well-being-tz-lib.orgedited)

Introduction to Artificial Intelligence

lecturer	Javier Montoya Dr. sc. ETH
type of course	Lecture
code	HS241041
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Th, 19.09.2024, 14:15 - 16:00, E.508 Th, 26.09.2024, 14:15 - 16:00, E.508 Th, 03.10.2024, 14:15 - 16:00, E.508 Th, 10.10.2024, 14:15 - 16:00, E.508 Th, 17.10.2024, 14:15 - 16:00, E.508 Th, 24.10.2024, 14:15 - 16:00, E.508 Th, 31.10.2024, 14:15 - 16:00, E.508 Th, 07.11.2024, 14:15 - 16:00, HS 2 Th, 14.11.2024, 14:15 - 16:00, E.508 Th, 21.11.2024, 14:15 - 16:00, ZOOM Th, 28.11.2024, 14:15 - 16:00, E.508 Th, 05.12.2024, 14:15 - 16:00, E.508 Th, 12.12.2024, 14:15 - 16:00, E.508 Th, 19.12.2024, 14:15 - 16:00, E.508 Mo, 20.01.2025, 14:00 - 15:30, HS 10 (Examination)
further dates	This is an introductory course on applied Artificial Intelligence in Digital Health.
duration	2 hours per week per semester
course content	• Introduction and Foundations of Artificial Intelligence and Deep Learning: what are the fundamental concepts associated to Artificial Intelligence/Deep Learning? • Applications of Artificial Intelligence in digital health: what are examples of applications of Artificial Intelligence in the medical field? • Supervised, Unsupervised, and Reinforcement Learning: what are the commontypes of Artificial Intelligence methods? • Introduction to Clinical Data: what are the different types of data available in clinical settings and how can they be used for diagnosis? • The Deep Learning Pipeline in Digital Health: what are the key building blocks of Artificial Intelligence systems and how do such systems are trained and evaluated? • Computer Vision in Medical Imaging: how can visual information be used to assist medical diagnosis in medical imaging? • Natural Language Processing in Healthcare: how can clinical text documents be used to obtain valuable medical insights? • Trustworthy Artificial Intelligence and Interpretability: what are the challenges and considerations aiming at trustworthy and interpretable Artificial Intelligence in Healthcare? • Ethical considerations and Regulations for Artificial Intelligence in Digital Healthwhat are the existing and emerging regulations and guidelines for using ArtificialIntelligence in the context of Digital Health? • Future Perspectives and emerging trends in AI for digital healthcare: what are the current trends and future perspectives of applied AI in Digital Health?
tags	Sustainability
learning objectives	After completing the course, students will be able to: • Understand and describe the fundamental principles of Artificial Intelligence in the context of the medical field. • Identify the different components of AI systems and how such systems are trained and evaluated on medical data. • Gain familiarity with existing AI models relying on visual and/or text data intended for medical diagnosis. • Analyze the regulations and ethical implications when developing AI systems for healthcare. • Evaluate critically the capabilities and limitations of AI models in digital health. • Improve soft skills: presentation, communication, problem-solving, and teamwork.
prerequisites	• Attendance and Engagement: regular attendance to the class and self-study arebeneficial to successfully complete the course. • Collaborative Learning: collaboration and exchange with peers through group discussions and joint projects will help to improve the learning experience. • Active Learning and Critical Thinking: Proactively learning and analyzing the applicability of AI systems together with their benefits, challenges, and limitations are important for succeeding in the course.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=762
exam	40% group project and 60% final written exam (multiple choice, short answer, etc.) with open notes.
type of exam	40% group project and 60% final written exam / 3 Credits
note	Teaching methods: The teaching methods are based on lectures, interactive discussions, multimedia resources, case studies, group project(s), and guest speaker.
Auditors	No
material	The teaching material includes research papers, online tutorials, and medical datasets. moodle e-learning platform for class material and evaluation.
literature	The corresponding references and readings will be provided in digital form on the moodle e-learning platform.

Health Systems and Services

lecturer	Ass.-Prof. Diana Patricia Pacheco Barzallo Prof. Armin Gemperli, PhD
type of course	Master seminar
code	HS241036
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 12:30 - 16:00, 4.B55 Tu, 01.10.2024, 12:30 - 16:00, 4.B55 Tu, 08.10.2024, 12:30 - 16:00, 4.B55 Tu, 15.10.2024, 12:30 - 16:00, 4.B55 Tu, 22.10.2024, 12:30 - 16:00, 4.B55 Tu, 29.10.2024, 13:30 - 16:30, HS 8 Tu, 05.11.2024, 12:30 - 16:00, 4.B55 Tu, 12.11.2024, 12:30 - 16:00, 4.B55 Tu, 19.11.2024, 12:30 - 16:00, 4.B55 Tu, 26.11.2024, 12:30 - 16:00, 4.B55 Tu, 03.12.2024, 12:30 - 16:00, 4.B55 Tu, 10.12.2024, 12:30 - 16:00, 4.B55 Tu, 17.12.2024, 12:30 - 16:00, 4.B55 Th, 16.01.2025, 14:15 - 15:15, HS 9 (Examination)
further dates	The course is a mandatory Basic Course (1st semester).
duration	4 hours per week per semester
course content	Lectures will include presentations, data exercises, and discussion sessions. They will be accompanied by slides and recommended/required readings to help students follow the course and understand the topics. Every other week, the courses will include a practical session, where the students can discuss some topics in more detail and analyze data.
e-learning	All the slides and working/reading material will be posted in the e-learning platform moodle.
learning objectives	After completing the module Health Systems and Services, students will understand how health care delivery services work. To achieve the course objectives, the student will distinguish the roles of health care providers, funders, regulators, and beneficiaries and their relationships in improving health. After completing this course, the student will be able to demonstrate the following competencies: • Know the elements and taxonomies of health care systems, their indicators, and the roles of providers, funders, regulators, and beneficiaries • Understand theoretically why health systems have a direct impact on health and development • Elaborate and distinguish different funding systems in health • Understand recent challenges in health statistics and information systems • Appraise different evaluation types of health interventions and related concepts such as health related quality of life • Critically appraise the challenges of demographic dynamics and the need for digital health • Identify forms of overtreatment and their threat to health systems • Identify challenges for the health systems related to health behavior • Understand how health technologies are developed, brought to market, and reimbursed • Know the regulation of the health workforce specifically for Switzerland • Comprehend the continuum of care, the role of the various settings and care providers, and its interactions • Apprehend how health systems performance and quality of care is measured and used for the improvement of the health care system. • Become familiar with the main elements of Swiss health care system and health system governance.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=744
exam	60% : 60 min. written final exam + 40% : assignments and readings
type of exam	written examination / 6 Credits
note	Teaching method(s): The courses will present the theoretical background on which health systems are built. They will also present the most recent evidence on the topic and the challenges societies face where health systems play an important role.
Auditors	Yes
contact	diana.pacheco@unilu.ch / armin.gemperli@unilu.ch
material	There is no specific textbook for the course, but some chapters indicated as supporting material from different sources may be useful as a complement to the lecture notes. Otherwise, we mostly rely on original sources such as scientific journal articles and working papers. Readings and additional materials will be made available in the e-learning platform before their discussion in class.
literature	Required and recommended readings will be indicated during class and made available in the e-learning platform.

Public Health and Social Impact of Epidemics: COVID-19 as a case in point

lecturer	Dr. phil. Jan Reinhardt
type of course	Master seminar
code	HS241054
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Fr, 22.11.2024, 08:15 - 17:00, ZOOM Fr, 29.11.2024, 08:15 - 17:00, ZOOM
duration	2 hours per week per semester
course content	The course will review health consequences of natural disasters and discuss health strategies aimed to address those.
e-learning	Teaching material will be provided via the e-learning platform Moodle.
learning objectives	Naural disasters entail a variety of public health consequences including mass fatalities and casualities, contagious disease, mental health problems, and long-term disabilities. Sudden onset as well as long-term impact call for a number of public health strategies and their coordination ranging from prevention and preparedness to community-based rehabilitation. The course aims to provide an overview about natural disasters from a public health perspective and to point students to challenges presently faced by disaster health sciences and health policy.
prerequisites	Overall grade of 4.0 or better
language	English
limitation	priority MSc Health Sciences students
exam	Written exam and presentations of student teams.
type of exam	Written exam and presentations of student teams / 3 Credits
note	Teaching method(s): Lectures, prepared presentations by students, home work, interactive discussions.
Auditors	No
contact	jan.reinhardt@doz.unilu.ch
material	Will be provided via the e-learning platform Moodle.
literature	• Abramson DM, Morse SS, Garrett, AL, Redlener I: Public Health Disaster Research: Surveying the Field, Defining Its Future. Disaster Medicine and Public Health Preparedness. 2007; 1(1): 57-62. • Leaning J; Guaha-Sapir D: Natural Disasters, Armed Conflict, and Public Health. New Engl J Med. 2013. 369 (19): 1836-42. • Noji EK: Disaster Epidemiology: Challenges for Public Health Action. J Public Health Pol. 1992; 13: 332-340. • Noji EK, Toole MJ:The Historical Development of Public Health Responses to Disasters. Disasters.1997, 21(4): 366-376. • Phibbs S; Kenney C, Severinsen C, Mitchell J, Hughes R: Synergizing Public Health Concepts with the Sendai Framework for Disaster Risk Reduction: A Conceptual Glossary. Int J Environ Res Public Health. 2016; 13: 1241. • Reinhardt JD, Gosney JE: Natural disaster, health-related aspects. In: James D. Wright (editor-in-chief), International Encyclopedia of the Social & Behavioral Sciences. 2015, 2nd edition, Vol 16. Oxford: Elsevier: 315–319. • Schulz JM: Perspectives on Disaster Public Health and Disaster Behavioral Health Integration. Disaster Health. 2014; 2: 69-74.

Mathematical foundations of health sciences (digital requirement)

lecturer	Dr. Katharina Roser
type of course	Special course
code	HS241663
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Mo, 28.10.2024, 08:15 - 10:00, 3.B48 Mo, 09.12.2024, 14:15 - 16:00, 3.B48 Th, 23.01.2025, 08:15 - 09:45, HS 10 (Examination)
course content	Scripts based on the accompanying book for self-study incl. a selection of exercises (sample solutions are available in the book)
learning objectives	Students understand the mathematical foundations of health sciences and are able to apply them. These fundamentals include the following topics: - Algebra - Equations - Functions of one variable - Properties of functions - Differential calculus - Univariate optimization - Integral calculus - Functions of several variables - Multivariate optimization
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=802
exam	Written exam during the exam session
type of exam	Written exam during the exam session / 3 Credits
note	This course is the digital , self-study equivalent to a course out of the BSc in Gesundheitswissenschaften program and counts as a requirement course. It is completely held online (with the exception of non-mandatory in-person counselling sessions). Students work on their own based on the provided materials. For this course, if students want to gain ECTS-points, students have to register via Uniportal during the usual exam registration period and there will be an in-person exam during the usual exam session at the end of the semester. The date will be announced via the exam plan. Master students who have been admitted with requirements can attend this course and gain ECTS-points within the requirement module after passing the exam. This course is not open to Bachelor students and cannot be taken in lieu of the in-person course. If Master students who do not have to fulfill requirements want to attend this course, it is open to them. If they decide to write the exam and gain ECTS-points, it will be counted towards the Additional Achievements module. It will show up on their transcript of records, but the grade does not count towards their GPA.
Auditors	No
contact	katharina.roser@unilu.ch
material	Moodle
literature	Accompanying book (English): Essential mathematics for economic analysis Fifth edition. Knut Sydsæter, Peter Hammond, Arne Strøm and Andrés Carvajal. 2016 Scripts will be provided via the e-learning platform Moodle.

Professional Development

lecturer	Prof. S. Rubinelli
type of course	Master seminar
code	HS241053
semester	fall semester 2024
department	Health Sciences
study level	Master
date	We, 09.10.2024, 12:30 - 14:00, 4.B47 We, 16.10.2024, 12:30 - 14:00, 4.B47 We, 30.10.2024, 12:30 - 14:00, 4.B47 We, 06.11.2024, 12:30 - 14:00, 4.B47 We, 13.11.2024, 12:30 - 14:00, 4.B47 We, 20.11.2024, 12:15 - 14:00, HS 3 We, 27.11.2024, 12:30 - 14:00, HS 12
duration	2 hours per week per semester
course content	• Curriculum writing • Job interview skills • Time management • Emotional intelligence • Dealing with professional difficulties • Principles of leadership
learning objectives	The course in Professional Development is a comprehensive program designed to enhance students' personal and professional growth by developing essential skills necessary for achieving their goals. This six-class course focuses on self-awareness, stress management, efficiency, creativity, emotional intelligence, time management, curriculum writing, and job interview skills. Students will gain knowledge and practical strategies to succeed in a competitive job market and navigate the complexities of the professional world. Course Objectives: 1. Foster awareness of challenging areas in the workplace that require specific skill development and training. 2. Instruct students on identifying and applying effective strategies for successful professional achievements.
prerequisites	The requirements are: Knowledge and Understanding: a solid understanding of the course material, including the main principles of professional development. Content Mastery: effectively applying knowledge by accurately and concisely conveying the content of the course in the development of concrete strategies for professional development. Self-appraisal and analytical skills: actively identifying and building competences for the strengthening of individual’s plans for professional development.
language	English
limitation	Priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=772
exam	Based on self-assessment, students have to provide a profile of the skills that they need to develop and clear strategies and exercise on how they will do it.
type of exam	written essay / 3 Credits
note	Teaching method(s): Interactive classes.
Auditors	Yes
contact	sara.rubinelli@unilu.ch
material	The teaching material is based on PowerPoint slides, videos, scientific articles and selected book chapters. All learning materials are provided via the E-learning platform Moodle.

Institutional Health Communication

lecturer	Prof. Sara Rubinelli, PhD
type of course	Lecture
code	HS241039
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 19.09.2024, 14:15 - 16:00, HS 13 Th, 26.09.2024, 14:15 - 16:00, 3.B58 Th, 03.10.2024, 14:15 - 16:00, 3.B58 Th, 10.10.2024, 14:15 - 16:00, 3.B58 Th, 17.10.2024, 14:15 - 16:00, 3.B58 Th, 24.10.2024, 14:15 - 16:00, 3.B58 Th, 31.10.2024, 14:15 - 16:00, 3.B58 Th, 07.11.2024, 14:15 - 16:00, 3.B58 Th, 14.11.2024, 14:15 - 16:00, 3.B58 Th, 21.11.2024, 14:15 - 16:00, 3.B58 Th, 05.12.2024, 14:15 - 16:00, 3.B58 Th, 12.12.2024, 14:15 - 16:00, 3.B58
duration	2 hours per week per semester
course content	• Introduction to institutional health communication • Theories and models of institutional communication

	• Communication in interprofessional team • Media relations in healthcare and health organizations's role in mass media • Social media in institutional communication • Community engagement • Crisis communication • Health advocacy and influencer engagement • Institutional brand identity and reputation
e-learning	All learning materials are provided via the E-learning platform Moodle.
learning objectives	This dynamic course offers students a unique opportunity to develop a comprehensive understanding of institutional communication within the healthcare sector, empowering them with the skills necessary to excel in their future careers. With a specific focus on the relationship between health organizations and the mass media, as well as effective communication with various stakeholders, this course delves into the essential concepts, principles, and strategies involved in managing media relations, fostering positive relationships with stakeholders, and addressing communication challenges within healthcare organizations. By mastering these communication skills, students will significantly enhance their employability and professional prospects in communication management. Throughout the course, students will explore a wide range of communication channels, techniques, and tools used in healthcare institutions. From traditional methods to cutting-edge technologies, students will gain practical insights on disseminating information, managing public perception, and maintaining effective stakeholder engagement. The course places special emphasis on the strategic utilization of communication channels, allowing students to develop a competitive edge in the job market. Engaging case studies and practical exercises will provide students with real-world scenarios, enabling them to apply their knowledge and refine their communication skills. By analyzing actual cases, students will gain valuable problem-solving experience, preparing them to navigate the complex landscape of media and stakeholder relations in healthcare. These practical exercises will help students develop confidence in managing challenging communication situations they may encounter in their future roles. The learning objectives of the course are: • Understand the fundamental concepts and principles of institutional communication within the healthcare sector. • Identify the key stakeholders involved in healthcare communication and recognize their roles and expectations. • Explore various communication channels and techniques used in healthcare organizations to effectively disseminate information. • Analyze the strategies and tools utilized in healthcare communication for fostering collaboration and maintaining positive relationships with stakeholders. • Examine the role of communication in managing crises within the healthcare sector and develop strategies to handle such situations effectively. • Recognize the ethical considerations and challenges in healthcare communication and develop strategies to address them. • Demonstrate effective written and oral communication skills in healthcare settings, including composing clear and concise messages, reports, and presentations.
prerequisites	The requirements are: • Media Relations: understanding the role of media in healthcare communication and possess the skills to establish positive relationships with journalists and media outlets. • Stakeholder Engagement: identifying and engaging with key stakeholders in healthcare organizations, including patients, families, interprofessional teams, and community organizations. • Communication Channels: exploring various communication channels, both traditional and digital, commonly used in healthcare settings • Crisis Communication and Reputation Management: acquiring the skills to navigate communication crises within healthcare organizations, implementing effective crisis communication strategies to mitigate reputational damage. Learning to address misinformation, manage public perception, and provide accurate information during emergencies and critical incidents. • Interprofessional Communication: mastering effective communication within interprofessional healthcare teams, promoting collaboration, and addressing conflicts • Cultural Competence: learning to communicate effectively with diverse populations, considering cultural, linguistic, and socioeconomic factors.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=778
type of exam	Assignment / 3 Credits
note	Teaching methods: Interactive classes, including exercise and evaluation of case-studies.
Auditors	No
contact	sara.rubinelli@unilu.ch
material	The teaching material is based on PowerPoint slides, videos, scientific articles and selected book chapters.
literature	To be specified at the beginning of the course.

Scientific Communication

lecturer	Prof. S. Rubinelli
type of course	Lecture
code	HS241056
semester	fall semester 2024
department	Health Sciences
study level	Master
date	We, 09.10.2024, 14:15 - 16:00, 4.B47 We, 16.10.2024, 14:15 - 16:00, 4.B47 We, 30.10.2024, 14:15 - 16:00, 4.B47 We, 06.11.2024, 14:15 - 16:00, 4.B47 We, 13.11.2024, 14:15 - 16:00, 4.B47 We, 20.11.2024, 14:15 - 16:00, HS 3 We, 27.11.2024, 14:15 - 16:00, 4.B47 We, 15.01.2025, 08:15 - 09:45, HS 9 (Examination)
duration	2 hours per week per semester
course content	The list of main topic includes: • Introduction to Scientific Communication • Science and society • Scientific writing • Public speaking • Science and social media
learning objectives	This course is designed to enhance the scientific communication skills of students. Through a combination of theoretical knowledge and practical exercises, participants will learn how to effectively communicate scientific concepts and research findings to diverse audiences. The course will cover various modes of communication, including written, oral, and digital platforms. It will strengthen the development of critical thinking skills, guide scientific writing abilities, and support confidence in presenting scientific information. The course will also explore the interaction between science and society, examining the social implications and ethical considerations in scientific communication. By the end of this course, students will be able to: • understand the importance of effective scientific communication and its interaction with society; • apply critical thinking skills to analyze and interpret scientific information within the context of social implications; • write clear and concise scientific papers and reports; • prepare and deliver effective oral presentations on scientific topics; • utilize digital platforms, including social media, for science communication; • demonstrate awareness of ethical considerations in scientific communication, particularly in relation to societal impact.
prerequisites	The requirements are: 1. Knowledge and Understanding: a solid understanding of the course material, including the principles of scientific communication, critical thinking skills, scientific writing conventions, oral presentation techniques, and ethical considerations in scientific communication. 2. Content Mastery: effectively applying knowledge by accurately and concisely conveying scientific concepts and research findings in written and oral formats. This includes demonstrating a clear understanding of the topic, using appropriate terminology, providing accurate and relevant information, and organizing the content in a logical manner. 3. Communication Skills: good communication skills, both in writing and speaking. This includes clear and concise writing, engaging delivery, and the ability to adapt the communication style to different audiences, whether scientific or general public.
language	English
limitation	Priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=771
exam	For the exam, students will have 2 hours to write the abstract and introduction of a scientific paper on a topic in the field of Health Sciences. They will also need to create a 3-slide presentation based on the paper and develop a lay-version of the abstract for the general public. Specific details of the paper, such as the type of methods used and the main results, will be provided to the students. This exam is designed to assess their ability to effectively present the paper to both the scientific community and the general public, demonstrating their acquired skills in scientific communication.
type of exam	written exam / 3 Credits
note	Teaching method(s): Interactive classes (including presentations from both the lecturer and the students, and class discussions) and class projects based on role-play exercises
Auditors	Yes
contact	sara.rubinelli@unilu.ch
material	The teaching material is based on PowerPoint slides, videos, scientific articles and selected book chapters. All learning materials are provided via the E-learning platform Moodle

Health, Person, Society

lecturer	PD Dr. Carla Sabariego Tomas Dr. sc. Jsabel Hodel
type of course	Master seminar
code	HS241037
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Th, 19.09.2024, 08:15 - 12:00, 3.A05 Th, 03.10.2024, 08:15 - 12:00, 3.A05 Th, 10.10.2024, 08:15 - 12:00, 3.A05 Th, 17.10.2024, 08:15 - 12:00, 3.A05 Th, 24.10.2024, 08:15 - 12:00, 3.A05 Th, 31.10.2024, 08:15 - 12:00, 3.A05 Th, 14.11.2024, 08:15 - 12:00, 3.A05 Th, 21.11.2024, 08:15 - 12:00, 3.A05 Th, 28.11.2024, 08:15 - 12:00, 3.A05 Th, 05.12.2024, 08:15 - 12:00, 3.A05 Th, 12.12.2024, 08:15 - 12:00, 3.A05 Th, 19.12.2024, 08:15 - 12:00, 3.A05 Mo, 13.01.2025, 10:15 - 11:45, HS 9 (Examination)
further dates	The course is a mandatory course.
duration	4 hours per week per semester
course content	This course serves as a foundational exploration of how health is conceptualized and operationalized in health sciences and of how population health can be improved through changes in health systems and health policy. Through engaging interactions with Professor Sabariego and Prof. Bickenbach, as well as group work with case scenarios, students will delve into health and its related concepts, gaining a profound comprehension of its complexity.
e-learning	All teaching materials are provided via the e-learning platform Moodle.
learning objectives	• Gain an in-depth understanding of health and health-related concepts, in line with WHO concepts and classifications. • Develop the skills needed to comprehensively describe and understand a person's health in the context of his or her life by using a range of case scenarios, fostering the ability to analyze complex health situations critically. • Recognize the value of case scenarios as an initial and indispensable step for describing, understanding and influencing population health. • Learn to identify and select appropriate interventions and strategies to improve health across various levels of the healthcare system.
prerequisites	- At least 80% attendance. - All assignments handed in. - The examination must be graded at least with a 4.0, the sufficiency according to the Swiss examination scheme.
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=743
exam	Written exam with multiple choice questions at the end of the semester. Policy of course attendance: presence is mandatory (80%).
type of exam	Written exam / 6 Credits
note	Teaching method(s): In-class lectures; group exercises and group presentations; individual exercises; self-study.
Auditors	Yes
contact	claudia.zanini@paraplegie.ch / jsabel.hodel@paraplegie.ch
material	Students need a computer and Internet access. All teaching materials are provided via the e-learning platform Moodle.

Principles and Practice of Clinical Quality Management

lecturer	Dr. med. Anke Scheel-Sailer
type of course	Master seminar
code	HS241052
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Fr, 06.12.2024, 08:15 - 16:00, E.508 Fr, 13.12.2024, 08:15 - 16:00, HS 14
duration	2 hours per week per semester
course content	Corner Stones in the historical development of Clinical Quality Development Main Quality models and certification programs (e.g. EFQM, ISO) Clinical Microsystems Clinical Management in case of patient with spinal cord injury Milestones in CQM implementation: situational analyses, stakeholder engagement, change process, outcome definition on micro, meso and macro level. Use of SWOT- analyses, Plan-Do-Check-Act and continuous improvement.
e-learning	All teaching material is provided via the e-learning platform Moodle.
learning objectives	Clinical quality management is increasingly demanded in all different institutions of health care delivery. This course presents the actual existing health care quality models and established certification programs. We will also demonstrate and discuss the challenges during practical implementation exemplified in case of an institution specialized for patients with spinal cord injuries.
prerequisites	Overall grade of 4.0 or better
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=781
exam	Active participation and presentation of a Journal Article integrated in the course
type of exam	active participation and presentation / 3 Credits
note	Teaching method(s): Lectures and group project Lectures, prepared presentations by students, home work, interactive discussions.
Auditors	Yes
contact	anke.scheel@doz.unilu.ch
material	Will be uploaded on moodle
literature	Will be uploaded on moodle

Faculty Lectures in Health Sciences and Medicine

lecturer	Prof. Scherer Philippe
type of course	Ring Event
code	HS241374
semester	fall semester 2024
department	Health Sciences
study level	Bachelor Master Doktorat
date	Mo, 30.09.2024, 16:45 - 18:30, HS 9
language	English
registration	Uniportal
Auditors	Yes
contact	gmf@unilu.ch

An introduction to Gender Medicine: Multidisciplinary Perspectives

lecturer	Dr. phil. Anne Marie Schumacher Dimech KD Dr. med. Tanja Volm
type of course	Lecture
code	HS241013
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	Mo, 16.09.2024, 14:15 - 16:00, HS 7 Mo, 23.09.2024, 14:15 - 16:00, HS 7 Mo, 30.09.2024, 14:15 - 16:00, HS 7 Mo, 07.10.2024, 14:15 - 16:00, HS 7 Mo, 14.10.2024, 14:15 - 16:00, HS 7 Mo, 21.10.2024, 14:15 - 16:00, HS 7 Mo, 28.10.2024, 14:15 - 16:00, HS 7 Mo, 04.11.2024, 14:15 - 16:00, HS 7 Mo, 11.11.2024, 14:15 - 16:00, HS 7 Mo, 18.11.2024, 14:15 - 16:00, HS 7 Mo, 25.11.2024, 14:15 - 16:00, HS 7 Mo, 02.12.2024, 14:15 - 16:00, HS 7 Mo, 09.12.2024, 14:15 - 16:00, HS 7 Mo, 16.12.2024, 14:15 - 16:00, HS 7
further dates	The course is taught in English. This is an elective module (Wahlpflichtmodul)
duration	2 hours per week per semester
tags	Sustainability; Gender/diversity
e-learning	The lectures will be taught on site at the University of Lucerne. All course materials will be provided electronically.
learning objectives	This module provides an overview of gender medicine including an in-depth study of a selection of topics using a multidisciplinary approach. This module is based on the following learning objectives: Students…. • know the concept of and the terminology related to gender medicine. • can understand and analyse the psychosocial aspects of gender medicine. • conceive and discuss how gender medicine has developed and continues developing over time and in an international context. • have knowledge of and describe the gender-relevant aspects of clinical medicine. • can classify and apply gender medicine in different political and socio-economic systems (professional politics, working environment, domestic space). • understand and apply gender-appropriate language in English and German • appraise their own role and reflect on their attitude towards stereotypes and bias. • can recognize and describe the influence of sex and gender on health and illness behaviour.
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=747
exam	Presence of at least 80% at the lectures is obligatory. If a student is absent for more than 80% of the class time, he/she must provide compensatory work to be agreed with the lecturers. Students will work on an essay in pairs and submit by the 13th of January 2025. Successful completion requires a minimum grade 4.0.
type of exam	Presence, paper / 3 Credits
note	Teaching methods: • Frontal teaching • Group work • Individual or Partner work • Poster Sessions • Use of interactive devices (for example: Mentimeter) • Online Surveys
Auditors	No
contact	anne.schumacher@unilu.ch / tanja.volm@doz.unilu.ch
material	• Table Arrangement: Classroom format preferred • Beamer • Internet • Flipcharts
literature	In advance of every teaching date a topic-specific literature list will be provided to the students.

Introduction to Clinical Rehabilitation

lecturer	Vanessa Andreina Seijas Bermudez, MD
type of course	Lecture
code	HS241042
semester	fall semester 2024
department	Health Sciences
study level	Bachelor
date	We, 18.09.2024, 14:15 - 16:00, 3.A05 We, 25.09.2024, 14:15 - 16:00, 3.A05 We, 09.10.2024, 14:15 - 16:00, 3.A05 We, 16.10.2024, 14:15 - 16:00, 3.A05 We, 23.10.2024, 14:15 - 16:00, 3.A05 We, 30.10.2024, 14:15 - 16:00, 3.A05 We, 06.11.2024, 14:15 - 16:00, 3.A05 We, 13.11.2024, 14:15 - 16:00, 3.A05 We, 20.11.2024, 14:15 - 16:00, 3.A05 We, 27.11.2024, 14:15 - 16:00, 3.A05 We, 04.12.2024, 14:15 - 16:00, 3.A05 We, 11.12.2024, 14:15 - 16:00, 3.A05 We, 18.12.2024, 14:15 - 16:00, 3.A05 Th, 16.01.2025, 08:15 - 09:45, HS 10 (Examination)
further dates	The course will have a bachelor class every week with a duration of 1 hour and 45 minutes, for 13 weeks. Students will also participate in a closing activity in week 14.
duration	2 hours per week per semester
course content	This course will offer an introduction to clinical rehabilitation. Rehabilitation is an essential part of universal health coverage along with health promotion, prevention of disease, treatment, and palliative care. Rehabilitation helps a child, adult, or older person be as independent as possible in everyday activities and enables participation in education, work, recreation, and meaningful life roles such as taking care of family. Rehabilitation is also a field of human medicine. In this course, lecturers will provide an introduction to the main areas of clinical rehabilitation, including the following topics: • Functioning, Disability, and Health • Rehabilitation as a public health strategy and as a clinical process • Introduction to the rehabilitation team and the most common rehabilitation interventions • Introduction to anatomy and physiology • Introduction to rehabilitation in Spinal Cord Injury • Rehabilitation of movements functions • Rehabilitation of athletes and adapted sports • Rehabilitation for limitations in urinary, bowel, and sexual functions • Rehabilitation for limitations in cardiovascular and respiratory functions • Rehabilitation for limitations in neurological and cognitive functions • Rehabilitation in the elderly population • Rehabilitation for limitations in speech, languages, and swallowing functions • Rehabilitation in the pediatric population
learning objectives	To provide an introduction to clinical rehabilitation.
language	Bilingue - German / English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=769
exam	Participation in in-class problem-oriented learning: 15% Final exam: 85%
type of exam	final examination (in English) / 3 Credits
Auditors	Yes
contact	vanessa.seijas@unilu.ch
material	The course has a space on the Moodle platform in which students will find: Lectures' presentations, review papers, audiovisual material

Evidence Based Medicine and its Roots

lecturer	Prof. Dr. Jivko Stoyanov Dr. sc. nat. Joelle Flück Prof. Armin Gemperli, PhD Marija Glisic , PD, MD, PhD
type of course	Master seminar
code	HS241026
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Fr, 20.09.2024, 08:15 - 16:00, 3.B57 Fr, 27.09.2024, 08:15 - 16:00, 3.B57 Fr, 04.10.2024, 08:15 - 16:00, 3.B52 Fr, 11.10.2024, 08:15 - 16:00, 3.B52 Fr, 18.10.2024, 08:15 - 16:00, 3.B57 Fr, 25.10.2024, 08:15 - 16:00, 3.B52 Fr, 08.11.2024, 08:15 - 16:00, 3.B57
duration	block course
course content	- Historical and clinical epidemiological foundation of evidence-based medicine - History of medicine - Evidence-based practice in nutritional and sports sciences - 24 steps to systematic review and meta-analysis - Group work, student presentations and discussions
e-learning	All teaching material is provided via the e-learning platform Moodle.
learning objectives	- Theoretical and practical understanding of the principles and methods of evidence-based medicine - Knowledge of the historical evolvement of medicine and biomedical research - Appraisal of the deficits and merits of evidence-based medicine and of initiatives to advance evidence-based medicine into the future - Translation of evidence-based guidelines in nutritional and sports sciences into practice - Understanding and application of systematic reviews and meta-analyses
prerequisites	Attendance and active participation during the course, including reading assigned articles and participating in group work and presentations. Ideally students have an interest and passed well the courses: - Health Systems and Services - Translational Medicine
language	English
limitation	priority Master Health Sciences students
registration	https://elearning.hsm-unilu.ch/course/view.php?id=783
exam	Course participants contribute to the course by presentations. Presentations will be 15-20 minutes in duration, followed by a 10-15 minute Q&A session. Grading is based on relevance to evidence-based medicine, coherence, and presentation skills. Time limit adherence is essential. In the “24 Steps to Systematic Review and Meta-Analysis” module, a combination of group work and written exam will be used for proficiency examination.
type of exam	Group presentation & written assignment / 6 Credits
note	Teaching method(s): In-class teaching and assignments and group work. The course will be spread over seven full Fridays, with the "24 Steps to Systematic Review and Meta-Analysis" module covered in the last three sessions. The structure includes morning lectures, afternoon group work, and student presentations on specified dates.
Auditors	Yes
contact	jivko.stoyanov@paraplegie.ch / joelle.flueck@doz.unilu.ch / armin.gemperli@unilu.ch / marija.glisic@paraplegie.ch
material	The teaching material is based on PowerPoint slides, videos, scientific articles or selected book chapters. Students will be provided with articles as a starting point for their presentations. All teaching material is provided via the e-learning platform Moodle.

Health Inequality and Public Policy

lecturer	Ass.-Prof. David Weisstanner
type of course	Lecture/Seminar
code	HS241035
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Mo, 16.09.2024, 12:30 - 14:00, 3.B58 Mo, 16.09.2024, 10:15 - 12:00, 3.B58 Mo, 23.09.2024, 12:30 - 14:00, 3.B58 Mo, 23.09.2024, 10:15 - 12:00, 3.B58 Mo, 30.09.2024, 12:30 - 14:00, 3.B58 Mo, 30.09.2024, 10:15 - 12:00, 3.B58 Mo, 07.10.2024, 12:30 - 14:00, 3.B58 Mo, 07.10.2024, 10:15 - 12:00, 3.B58 Mo, 14.10.2024, 12:30 - 14:00, 3.B58 Mo, 14.10.2024, 10:15 - 12:00, 3.B58 Mo, 21.10.2024, 12:30 - 14:00, 3.B58 Mo, 21.10.2024, 10:15 - 12:00, 3.B58 Mo, 28.10.2024, 12:30 - 14:00, 3.B58 Mo, 28.10.2024, 10:15 - 12:00, 3.B58

	Mo, 04.11.2024, 12:30 - 14:00, 3.B58 Mo, 04.11.2024, 10:15 - 12:00, 3.B58 Mo, 11.11.2024, 12:30 - 14:00, 3.B58 Mo, 11.11.2024, 10:15 - 12:00, 3.B58 Mo, 18.11.2024, 12:30 - 14:00, 3.B58 Mo, 18.11.2024, 10:15 - 12:00, 3.B58 Mo, 25.11.2024, 12:30 - 14:00, 3.B58 Mo, 25.11.2024, 10:15 - 12:00, 3.B58 Mo, 02.12.2024, 12:30 - 14:00, 3.B58 Mo, 02.12.2024, 10:15 - 12:00, 3.B58 Mo, 09.12.2024, 12:30 - 14:00, 3.B58 Mo, 09.12.2024, 10:15 - 12:00, 3.B58
duration	4 hours per week per semester
course content	Why are there systematic health differences between different population groups? Health inequality is a persistent, global issue and may even have increased over time in some places. This course asks whether public policies can shape and reduce health inequalities. Policies related to education, health care, employment, social protection, or housing can have a significant impact on the social determinants of health, which in turn can shape health outcomes. The theoretical part of course first discusses definitions and various explanations of health inequality. Next, we discuss the necessary conditions and pathways for policy interventions to affect health inequalities. Finally, we explore specific dimensions of health inequality (between socio-economic groups, by gender, race, geographic area, etc.). In the applied part of the course, we look at various data sources to measure health inequality and public policies. Over the semester, each student will develop an own empirical research project (quantitative or qualitative) to assess the impact of a policy on health inequality. We discuss analytical strategies to implement students' research project ideas and provide several opportunities for feedback on their projects.
e-learning	Teaching material is provided via the e-learning platform moodle.
learning objectives	Students will be able to: - describe the concepts and measurement of health inequality - analyze the impact of various public policies on health inequality, and the possible pathways by which they affect health outcomes - evaluate the effectiveness of different policy approaches to reduce health inequality and promote more equitable health outcomes - apply the theoretical knowledge by developing an own empirical research project and writing a policy brief
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=775
exam	Overall grade of 4.0 or better. The final grade consists of three parts: - A written paper (70%) consisting of two parts: - Part I (35%): A short empirical research paper (max. 2500 words) with a quantitative or qualitative analysis on the impact of a policy on health inequality – preliminary draft due on 30th November 2024 - Part II (35%): A policy brief (max. 2 A4 pages) with a concise summary of the findings of the empirical research paper, policy considerations, and possible policy recommendations - The final paper is due on 31st January 2025, 23:59 CET. - Individual presentation (20%) of the (preliminary) findings of the empirical research paper – on 2nd or 9th December 2024 - Active participation (10%)
type of exam	written exam, presentation / 6 Credits
note	Teaching methods: Typical weeks consist of a theoretical part based on interactive lectures and discussions in the morning (10:15-11:50), followed by an applied part focusing on implementing the own research project after the lunch break (12:30-14:00). Several guest lecturers will be invited to share insights from their research or practical work. Individual presentations of the preliminary findings from the empirical research projects take place on 2nd and 9th December 2024.
Auditors	No
contact	david.weisstanner@unilu.ch
material	Teaching material is based on slides, scientific articles, book chapters, data resources, exercises, and individual presentations.
literature	The course builds on the following two textbooks: - Bartley, Mel. 2017. Health Inequality. An Introduction to Concepts, Theories and Methods. 2nd ed. Cambridge: Polity Press. - Mackenbach, Johan P. 2019. Health Inequalities. Persistence and Change in European Welfare States. Oxford: Oxford University Press. Selected chapters and other readings will be available on the e-learning platform Moodle.

Basics of Neuroscience: from brain to cognition

lecturer	Guiseppe Zito
type of course	Lecture/Exercise
code	HS241018
semester	fall semester 2024
department	Health Sciences
study level	Master
date	Tu, 17.09.2024, 08:15 - 10:00, 3.B55 Tu, 24.09.2024, 08:15 - 10:00, 3.B55 Tu, 01.10.2024, 08:15 - 10:00, 3.B55 Tu, 08.10.2024, 08:15 - 10:00, 3.B55 Tu, 15.10.2024, 08:15 - 10:00, 3.B55 Tu, 22.10.2024, 08:15 - 10:00, 3.B55 Tu, 29.10.2024, 08:15 - 10:00, 3.B55 Tu, 05.11.2024, 08:15 - 10:00, 3.B55 Tu, 12.11.2024, 08:15 - 10:00, 3.B55 Tu, 19.11.2024, 08:15 - 10:00, 3.B55 Tu, 26.11.2024, 08:15 - 10:00, 3.B55 Tu, 03.12.2024, 08:15 - 10:00, 3.B55 Tu, 10.12.2024, 08:15 - 10:00, 3.B55 Tu, 17.12.2024, 08:15 - 10:00, 3.B55 Fr, 24.01.2025, 08:15 - 10:00, HS 4 (Examination)
duration	2 hours per week per semester
course content	• Anatomy of the brain, from cortical to subcortical structures • Classification of brain regions based on anatomical landmarks • Cognitive functions and their neural correlates: attention, memory, language, executive functions • Emotions and their neurobiological substrate • Principles of magnetic resonance imaging and electroencephalography
learning objectives	• Acquire knowledge on the main brain structures and their functions • Associate brain regions to cognitive functions and emotions • Learn the basics of advanced neuroimaging
language	English
registration	https://elearning.hsm-unilu.ch/course/view.php?id=777
exam	• Presentation of the a simple project (See 3. Teaching methods) • Pass the oral exam
type of exam	Submission project, oral exam / 3 Credits
note	Teaching methods: • Front teaching • Work in small groups (2-3 students each) • Carry on a simple project
Auditors	No
contact	giuseppe.zito@paraplegie.ch
material	• Main: teaching slides • Book: “Neuroscience” 6th Ed D. Purves, Et Al., (Sinauer, 2004)
literature	• Scientific papers will be cited during the lectures