



COURSE CATALOGUE 2026-2027

2026-2027 | University College Venlo

Disclaimer

The course and skills descriptions provided herein are for the guidance of students of University College Venlo and every effort is made to ensure their accuracy. However, University College Venlo reserves the right to make variations to the content and pre- and co-requisites, to discontinue courses and to merge or combine courses without prior notice. This course catalogue is under continuous development, new courses are added regularly. Suggestions can be proposed to the Education Programme Committee.

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Introduction to the UCV Course Catalogue 2026-2027

On behalf of the UCV programme, we are pleased to present the Course Catalogue for the academic year 2026–2027. This edition marks an important step in the further development of our curriculum. From this academic year onwards, the UCV curriculum is more explicitly centred around sustainable food systems. Within this overarching theme, courses are positioned more clearly along three complementary perspectives: health, behaviour, and responsible innovation. This strengthens the coherence of the programme while maintaining the interdisciplinary and flexible Liberal Arts & Sciences approach that defines UCV.

The main structural change concerns the renewal of the core curriculum. A new set of core courses is introduced for students starting in September 2026. At the same time, the current core courses (Modelling Nature (P1), Information Literacy (P2), and World Orientation (P4)) will be offered one final time as part of a formal teach-out for current students. The course Philosophy of Science will continue under the new title Knowledge, Evidence and Decision-Making under Uncertainty and will be taught in P2.

To ensure a smooth transition, arrangements are in place that allow all current students to complete their programme without delay. These include a final opportunity to take existing core courses and limited flexibility to take selected new courses. In addition, a portfolio trajectory will be introduced as part of the skills training, supporting students in reflecting on their academic development and shaping their individual learning pathway. The implementation of this portfolio will differ depending on students' year of entry. If you have questions about these transitions, please contact your academic advisor.

While most courses in the catalogue remain in place, some have been updated, renamed, or repositioned to better align with the renewed thematic focus. Also, the appendix of this course catalogue has been updated, describing which modules are open to UCV students at University College Maastricht (UCM) and the Maastricht Science Programme (MSP). The number of modules available has been expanded. Please check the last section of this course catalogue for an overview.

New core¹

The core courses have undergone a thorough revision. The list below is the revised list of core courses for students who started at UCV in September 2026.

New core courses	Period
<i>VCO1006 Biological Foundations of Nutrition and Health</i>	P1 ²
<i>VCO1007 Behaviour and Decision-Making</i>	P1 ²
<i>VCO1002 Knowledge, Evidence and Decision-Making under Uncertainty</i> (renamed from <i>Philosophy of Science</i>)	P2
<i>VCO1008 Global Sustainability Challenges</i>	P4
<i>VPR1006 Food in Transition: An Interdisciplinary Systems Perspective</i>	P3

Former core courses (discontinued from AY27-28)	Period
<i>VCO1001 Modelling Nature</i>	P1
<i>VCO1005 Information Literacy</i>	P2
<i>VCO1004 World Orientation</i>	P4

¹ Please note that students who started *prior to* AY26-27 are assumed to graduate under the old core curriculum. In case you want to graduate under the new core, reach out to your academic advisor asap to discuss your individual curriculum and request this.

² Mandatory for all incoming students to start with.

New modules

Several new modules have been added to strengthen the curriculum, these include:

- VSK2014 Motivational Interviewing
- VSK2017 Advanced Qualitative Research (offered from AY 2027-2028)

Discontinued modules

Many of the newly added modules are meant to fill gaps created by discontinued courses. The courses that had to be discontinued are:

- VPR1005 Research Methods II: Qualitative Research
- VSC1501 Sustainable Development
- VSC1101 Introduction to Biology
- VSS1001 Introduction to Psychology

Changes in period

- VSK2014 Motivational Interviewing from period 2 to period 4
- VSC2106 Brain and Action from period 4 to period 5

Changes in name & course updates³

A few courses have been adapted in name to reflect the course content better in the name. Some of these changes are in line with significant updates of the courses (please have a look at the course descriptions for more information).

Old name	New name
VSK1001 Introduction to Academic Skills	VSK1001 Academic Inquiry and Information Literacy
VSK1002 Research Methods I	VSK1002 Designing Research: Quantitative and Qualitative Approaches
VSK2014 Interviewing I	VSK2014 Motivational Interviewing
VCO1002 Philosophy of Science	VCO1002 Knowledge, Evidence and Decision-Making under Uncertainty
VSC2204 Public Health Policy Making	VSC2204 Public Health Nutrition Policy and Governance
VSC2201 Epidemiology of Food	VSC2201 Nutritional Epidemiology
VSC3102 Healthy Life Cycle	VSC3102 Behavioural and Environmental Drivers of Health
Old code and level	New code and level
VSC3501 Sustainable Food Production	VSC2502 Sustainable Food Production

We hope this catalogue helps you navigate your study choices. For detailed course information, please consult the individual course descriptions.

³ Please note that the courses that became core courses in AY 2026-2027 can be taken as regular courses for students who started at UCV prior to September 2026.

You cannot take the courses that have changed their name again if you have already taken them under their previous name in the past, as the content of the courses may overlap with the content of previous versions.

Courses per period

Course Code	Module	Level	Course Title	Period
VCO1001	Course	1000	Modelling Nature	1
VCO1006	Course	1000	Biological Foundations of Nutrition and Health	1
VCO1007	Course	1000	Behaviour and Decision-Making	1
VHU2002	Course	2000	History of Knowledge	1
VSC2205	Course	2000	Nutrition and Metabolism	1
VSC2208	Course	2000	Sensory Science	1
VSC3101	Course	3000	Gut Microbiology	1
VSC3206	Course	3000	Nutritional Pharmacotherapy	1
VSC3502	Course	3000	Planetary Health	1
VSS1201	Course	1000	Introduction to Business Administration	1
VSS2105	Course	2000	Social Psychology	1
VSK1001	Skills Training	1000	Academic Inquiry and Information Literacy	1
VSK2004	Skills Training	2000	Academic Writing	1
VSK2013	Skills Training	2000	Nutritional Assessment	1
VSK2015	Skills Training	2000	Lab Skills: Good Laboratory Practice	1
VSK2016	Skills Training	2000	Advanced Logic	1
VCO1002	Course	1000	Knowledge, Evidence and Decision-Making under Uncertainty	2
VCO1005	Course	1000	Information Literacy	2
VSC1303	Course	1000	Introduction to Statistical Methods and Data Analysis	2
VSC1401	Course	1000	Introduction to Chemistry	2
VSC2103	Course	2000	Pharmacology and Toxicology	2
VSC2104	Course	2000	Molecular Biology	2
VSC2207	Course	2000	Plant Biology and Agriculture	2
VSC3204	Course	3000	Food Safety	2
VSC3207	Course	3000	Sports Nutrition and Physiology	2
VSS2101	Course	2000	Psychology of Eating	2
VSS2203	Course	2000	Finance and Investments	2
VSS3101	Course	3000	Performance Psychology in Sports and Business	2
VSS3301	Course	3000	Social and Environmental Entrepreneurship	2
VSK1002	Skills Training	1000	Designing Research: Quantitative and Qualitative Approaches	2
VSK2003	Skills Training	2000	Lab Skills: Biomolecular Techniques	2
VSK2009	Skills Training	2000	Leadership Skills	2
VSK2010	Skills Training	2000	Creativity & Concept Development of New Business	2
VSK2012	Skills Training	2000	Integrated Sustainability Assessment of Climate Change	2
VPR1006	Project	1000	Food in Transition: An Interdisciplinary Systems Perspective	3
VPR2001	Project	2000	Writing a Research Proposal	3
VPR2002	Project	2000	Academic Debate	3
VPR3004	Project	3000	Project Management	3
VCO1003	Course	1000	World Orientation: An Introduction to Cultural Studies	4
VCO1008	Course	1000	Global sustainability Challenges	4
VHU1002	Course	1000	Digital Technology and Culture	4
VSC2102	Course	2000	Homeostatic Principles	4
VSC2201	Course	2000	Nutritional Epidemiology	4

Course Code	Module	Level	Course Title	Period
VSC2401	Course	2000	Biochemistry	4
VSC2501	Course	2000	Climate Change	4
VSC2502	Course	3000	Sustainable Food Production	4
VSC3102	Course	3000	Behavioural and Environmental Drivers of Health	4
VSC3201	Course	3000	Clinical Nutrition	4
VSC3202	Course	3000	Health Education and Communication	4
VSS2206	Course	2000	Supply Chain Management	4
VSS3102	Course	3000	Taste	4
VSK1000	Skills Training	1000	The Applied Researcher I	4
VSK2002	Skills Training	2000	Lab Skills: Protocol Design	4
VSK2007	Skills Training	2000	Risk Communication & Crisis Management	4
VSK2011	Skills Training	2000	Influencing and Negotiation Skills	4
VSK2014	Skills Training	2000	Motivational Interviewing	4
VHU1001	Course	1000	Ethics	5
VSC2105	Course	2000	Microbiology	5
VSC2106	Course	2000	Brain and Action	4
VSC2108	Course	2000	Human Pathobiology	5
VSC2203	Course	2000	Food Technology and Processing	5
VSC2209	Course	2000	Global Health Nutrition	5
VSC2305	Course	2000	Intermediate Statistical Methods and Data Analysis	5
VSC3203	Course	3000	Food Innovation	5
VSC3208	Course	3000	Food and Disease	5
VSC3302	Course	3000	Bioinformatics	5
VSS2102	Course	2000	Behaviour Change	5
VSS2301	Course	2000	Entrepreneurship	5
VSS3202	Course	3000	Consumer Behaviour	5
VSK1004	Skills Training	1000	The Applied Researcher II	5
VSK2006	Skills Training	2000	Clinical Lab Skills	5
VSK2008	Skills Training	2000	Visualization and Data Storytelling	5
VSK3004	Skills Training	3000	Science Communication I	5
VSK3005	Skills Training	3000	Food Product Development	5
VPR1002	Project	1000	The Applied Researcher III	6
VPR2004	Project	2000	Strategic Marketing and Practice	6
VPR3002	Project	3000	Think Tank	6
VPR3003	Project	3000	Science Communication II	6
VCA3000	Bachelor Thesis	3000	Capstone	Semester

Core Courses

VCO1001 Modelling Nature

1000 Core Course

5 ECTS, Fall Semester, Period 1

Only students that started in the academic year 2025-2026 or earlier can choose this course. Last time offered in 2026-2027

Prerequisites

✓ None

Recommendations

This course provides an introduction to theorizing and modelling. It is relevant for a wide range of other courses that are offered at UCV, but it does require some experience in academia.

Intended Learning Outcomes

Upon completing this course, students can:

- Recall and describe the fundamental characteristics of models used in different disciplines in the natural and social sciences, including their purpose, variables and limitations;
- Can demonstrate comprehension of the underlying principles of modelling by analysing and interpreting relationships between variables within different types of models used in natural and social sciences;
- Reflect on and compare modelling approaches across disciplines, evaluating their strengths, limitations, and suitability for different types of questions;
- Apply relevant models and modelling to understand, explain or predict phenomena encountered in everyday life.

Description of the course

Models allow us to approach complex questions in systematic ways, for instance, by predicting weather conditions, the patterns of bird flight formations or the results of presidential elections. Such questions are present everywhere and it is through modelling that we can try to find some answers. Modelling helps us to break down what we are studying into variables, understand relations or correlations between them and even predict the future. However, we always need to be aware that models have specific limitations, and we have to use them wisely.

The core course Modelling Nature is aimed at familiarising students with model systems that are used within the different disciplines of Sciences and Social Sciences. Following a broad introduction to models and modelling, cases will address different types of models in e.g. life sciences and behavioural sciences in more depth. Case studies will illustrate the usefulness of these models in various contexts. Students will be exposed to different models used both in academia and everyday thinking, to foster a thorough understanding of natural and social phenomena. Throughout the course, students are encouraged to link models to specific situations and examples from their daily life.

Literature

Jaccard J. and Jacoby J. (2020). Theory Construction and Model-Building Skills – A Practical Guide for Social Scientists, 2nd edition. New York: The Guilford Press.

Additional materials (original research articles and relevant knowledge clips) will be made available on Student Portal.

Instructional Format

Lectures, workshops and tutorial meetings

Assessment

- 60% of grade: Written final exam (open questions).
- 40% of grade: Written assignment.

VCO1002 Knowledge, Evidence and Decision-Making under Uncertainty

1000 Core Course

5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this course/skill/project students should be able to:

1. Explain core epistemological principles underlying scientific inquiry
2. Compare different forms of evidence used in sustainability and food-system research
3. Distinguish between scientific and non-scientific claims using key philosophical frameworks
4. Assess the influence of values, uncertainty, and interdisciplinarity on scientific research and policy-making
5. Justify evidence-based claims on sustainability-related issues

Description of the course

This core course provides an introduction to central problems in epistemology and the philosophy of science, with a focus on their application to sustainability and food system challenges. It examines various accounts of knowledge, including the tripartite definition of justified true belief, empiricist theories of knowledge and the problem of induction, and debates concerning the demarcation of science from pseudoscience. Building on these foundations, the course explores the nature of truth and the role of scepticism and relativism in evaluating knowledge claims. It further addresses contemporary issues such as misinformation, the evaluation of evidence in science and policy, the epistemological complexities of interdisciplinary research, and critiques of the value-free ideal of science. Throughout, particular emphasis is placed on trust in science and the value of both knowledge and truth.

Literature

Original research articles

Instructional Format

Lectures, tutorial meetings, and journal clubs

Assessment

Debate (midterm group assignment)

Final exam (multiple choice format)

VCO1003 World Orientation: An Introduction to Cultural Studies

1000 Core Course

5 ECTS, Spring Semester, Period 4

Only students that started in the academic year 2025-2026 or earlier can choose this course. Last time offered in 2026-2027

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- You can recall cultural concepts and models relevant to understanding how culture influences our actions and thinking in six different fields of studies (e.g. Kleinman's explanatory model; Douglas grid-group theory).
- You can explain how culture influences our actions and thinking in six different fields of studies (health, food, business, globalization, human rights, and risk perception).
- You can use the theoretical and empirical knowledge retrieved from academic sources to argue for or against a perspective on a current societal issue.
- You can orally discuss a current societal issue in a two person debate using theoretical and empirical knowledge studied in the course.

Description of the course

This course takes an approach that surpasses boundaries between disciplines and methods, problems and perspectives. We will focus on understanding how culture and cultural differences contribute to some of the current problems and phenomena observed in six disciplines (health, food, business, globalization, human rights, and risk perception). In each week of the course we will focus on the relation between culture and one of the six fields. Questions that will be tackled include: What is culture? How does globalization influence culture and identity? Why are some people so persistent in using non-western forms of healing/ treatment within a biomedical treatment dominated country? Is food culture by definition the result of an autonomous shift in consumer views/tastes or can a change in food culture be produced? How can culture explain differences in risk perception?

Literature

An e-reader will be provided which contains numerous literature sources per task.

Instructional Format

Tutorial group meetings, recorded knowledge clips, on-campus lectures, and discussion boards.

Assessment

Online debate (incl. writing a factsheet/template in advance) and final written exam.

VCO1005 Information Literacy

1000 Core Course

5 ECTS, Fall Semester, Period 2

Only students that started in the academic year 2025-2026 or earlier can choose this course. Last time offered in 2026-2027

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

Students will learn to:

- Develop a skeptical mind towards presented information from different sources
- Recognize good and bad reasoning
- Detect misinformation
- Use appropriate data for different research questions (qualitative and quantitative) and evaluate if others have appropriately used data
- Think like a scientist: recognize biases and assumptions in processing information
- Understand different types of truths and untruths/recognize true and untrue information

Description of the course

A key aspect of studying at university and later on working at university level, is the correct and critical appraisal of scientific as well as non-scientific information. This course will teach about different aspects of information literacy, such as judging the value of an argument, recognizing misinformation and fallacies in reasoning (e.g. confirmation bias, hindsight bias, heuristics). Both qualitative and quantitative data and documents will be studied, to learn that different research questions require different types of data and value the provided information in a correct way. To be well prepared for the future, the course will also pay attention to the growing amount of information provided via artificial attention, bringing new challenges in correctly valuing information.

Key words:

- Skepticism
- Critical thinking
- Argumentation
- Data literacy
- Information literacy
- Inductive and deductive reasoning

Literature

E-reader

Instructional Format

PBL, Journal Clubs

Assessment

Journal Club assignments, final exam

VCO1006 Biological Foundations of Nutrition and Health

1000 Core Course

5 ECTS, Fall Semester, Period 1

This course is mandatory in the first semester of your study.

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

After finishing the course, students will be able to:

1. Explain fundamental biological principles, including cellular organisation, membrane transport, cellular division and metabolic processes
2. Recognise the differences in the structure and function of macromolecules and identify how those are relevant to the support of life and human health
3. Explain basic digestion and energy metabolism processes.
4. Describe structural and functional interactions between organs and systems in the human body supporting homeostasis
5. Interpret basic biological data and recognise common experimental approaches.

Description of the course

This course introduces fundamental biological concepts and principles relevant to human functioning. It starts with explorations on cellular organization and functionality and how these processes contribute to the maintenance of life. The main macronutrients will be discussed and linked to the processes of digestion and energy metabolism. Subsequently, the students examine how the human body is built and how its various organs and systems interact in order to maintain internal balance and respond to nutritional and environmental inputs. Core biological mechanisms are introduced in the context of their applications to nutrition and preventive wellbeing.

Literature

- Starr, C., Evers, C. A., & Starr, L. (2021). *Biology: today and tomorrow: with physiology* (6e ed.). Cengage.
- Simon, E. J., Dickey, J., Reece, J. B., Burton, R. A., & Campbell, N. A. (2020). *Campbell essential biology with physiology*. (Sixth edition / Global edition). Pearson.
- Rolfes, S. R., Whitney, E. N., & Pinna, K. (2021). *Understanding normal & clinical nutrition* (Twelfth edition). Cengage.
- Parker, R., & Pace, M. (2017). *Introduction to food science & food systems* (2nd edition). Cengage Learning.

Instructional Format

PBL, lectures

Assessment

Weekly quizzes, midterm exam and mini project (includes written report and presentation).

VCO1007 Behaviour and Decision-Making

1000 Core Course

5 ECTS, Fall Semester, Period 1

This course is mandatory in the first semester of your study.

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this course students should be able to:

- Explain and reflect on psychological ideas
- Interpret empirical findings in behavioural research.
- Apply behavioural concepts to food, health and sustainability contexts.
- Illustrate how psychological concepts (e.g., happiness, shyness) can be transformed into something that can be measured and studied.

Description of the course

In behavioural sciences we wish to understand how and why we think, feel, perceive, and act in a certain way. This course introduces foundational concepts and theories from psychology and consumer behaviour to understand human behaviour and decision-making. Students explore cognitive, motivational and social processes and examine how these interact with economic incentives and institutional contexts. Applications focus on food choice, health behaviour and sustainability.

Literature

Original research articles

Instructional Format

Lectures and tutorial meetings

Assessment

Writing assignment, and final exam (open questions)

VCO1008 Global Sustainability Challenges

1000 Core Course

5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this course students should be able to:

- Explain core sustainability-related concepts and describe the major sustainability challenges humanity faces today.
- Understand the role of temporality in governing sustainability transitions.
- Analyse the connections between global production systems, economic structures, social justice concerns, and environmental outcomes.
- Evaluate different approaches to measuring sustainability and design relevant criteria for assessing the need for and success of sustainability-focused innovations.

Description of the course

This introductory course explores fundamental questions related to sustainability: What are we trying to sustain? What's at stake if we fail? And how exactly should we measure progress?

We will investigate why environmental problems persist despite widespread awareness, examining how economic power and social structures shape sustainability outcomes. By learning from real life examples, we will try to understand the complex nature of global sustainability challenges and examine the promises and perils of various solutions. We will also pay attention to the temporal dimension of sustainability i.e. how past actions influence the realities we face today and what can be done today to safeguard future generations' prospects. No prior knowledge required, just curiosity about how the world works and willingness to question existing notions about what sustainability actually means.

Literature

Jacques, P. (2020). Sustainability: The basics (2nd ed.). Routledge. ISBN 9780367365172

Instructional Format

Lectures and tutorial meetings

Assessment

- Essay assignment
- Written final exam with multiple choice and open-ended questions

Humanities Courses

VHU1001 Ethics

1000 Humanities Course

5 ECTS, Spring Semester, Period 5

✓ None

Recommendations

None

Intended Learning Outcomes

Students will:

- Critically analyze the social, economic, and environmental factors that influence the ethical dimensions of scientific research and technological innovation
- Understand key ethical frameworks and apply them to practical concerns and problems of science and technology
- Develop and defend positions regarding the ethics of scientific discoveries, scientific research, and the use of a variety of new and emerging technologies

Description of the course

We live in a fast-paced and ever-changing world in which scientific and technological practices raise many ethical concerns. Building on the theme that science and technology have both beneficial and detrimental aspects, this course explores the ethical dimensions of a multitude of scientific and technological practices and innovations such as food technologies, cloning, genomics, synthetic biology, nanotechnology and big data analyses. We will focus on both current ethical controversies in science and technology as well as long-standing debates. We will ask and discussion questions such as, should research be conducted on animals, and if so, under what conditions? What ethical issues arise as a result of our increasing use of computers? What are scientists' responsibilities regarding risky technologies? To what extent, and how, should the public be involved in scientific practices? Instead of providing easy answers to these questions, this course will provide concepts and theories for thinking about ethical issues systematically and coherently, and for developing justifiable positions about them.

Literature

Understanding Ethics, by Torbjörn Tännsjö

E-Reader

Instructional Format

PBL format

Assessment

Paper (65%)

Presentation (35%)

VHU1002 Digital Technology and Culture

1000 Humanities Course

5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- Students will have an introductory overview of trends and developments in the field of digital media and robotics, from the perspective of the humanities /social sciences
- Students will understand the transformations people experience with respect to the use of digital media and technology
- Students will develop an opinion about digitalization processes and their impact on people and society and they will train in presenting this judgement
- Student will learn to analyse issues and specific cases in digital culture and digital behaviour, applying some important concepts and theories from digital studies

Description of the course

Students in this course will be introduced into the broad field of digital media and technology and discuss in detail computer based practices and robotic practices (from a perspective of the humanities and social sciences). The topics discussed range from technological developments and transformations in our digital cultures to user practices and ethical considerations in the context of new emerging technologies. While popular debates usually focus on general discussions on the impact of digital technologies, this course will deal with the complexity and diversity of our contemporary culture.

Digitalisation has a profound impact on our society. Digitalization refers not only to the process of converting analogue information into digital format (we rather call this digitisation) but to integrating digital technologies into various aspects of society, culture, and daily life. We can observe changes in many different areas. What digital media do, what they look like and how they relate to each other and to older media is not identical worldwide, but dependent on local practices as well. It involves the use of digital tools and technologies with the promise to enhance efficiency, accessibility, and connectivity. We will discuss whether this is indeed the case.

The widespread adoption of digitalization has transformed all aspects of our lives. It has led to the creation of digital platforms, online services, and data-driven decision-making. It has transformed the functioning of media, markets and political institutions. It has changed the way we work, study, communicate, eat and sleep. However, transformations are not unequivocal. New possibilities in our digital cultures arise but also new inequalities, as the access and competencies needed for participation, are not evenly distributed. The platforms that allow for participation also harbour new mechanisms of control, surveillance and selection. The pace and diversity of these developments ask for continuous investigation and reflection. In particular, the course addresses the following topic domains:

- digitalization processes in culture and society
- technological mediation and imaginaries
- robotics & human-robot interaction

- digital technology, AI and ethics
- digital art and music in times of AI
- digital communication, digital detox and mental health
- digital practices of remembering and mourning
- digital literacy and digital divides
- digital citizenship and political action

For each academic and professional, it will be important to understand how different groups make different use and sense of digital technologies. One day it may be your task to introduce your students, patients, customers, citizens, readers, etc. into the use of specific digital tools, and to mediate conflicts about their functionalities, design and social and cultural impact.

Literature

The literature is available online and via the reference list of the University Library. The course will be structured around a systematic reading of the following handbook: Lindgren, S. (2022), *Digital Media and Society*, 2nd edition. Sage. This reading gives you a solid historical and conceptual overview of current trends in digital society.

Instructional Format

Short lectures, tutorial group meetings, viewing of several movies and documentaries.

Assessment

Two short presentations in class (40%), and a final written exam (60%) about the course topics.

VHU2002 History of Knowledge

2000 Humanities Course

5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

VCO1002 Philosophy of Science

Intended Learning Outcomes

- Identify and analyze key theories and debates in historiography;
- Understand key historical explanations of the genesis, movement, and changing of scientific ideas and knowledge;
- Interpret primary and secondary historical sources;
- Apply historiographical insights to analyze the political, cultural, and economic contexts of scientific and technological change

Description of the course

Why do specific people in certain social contexts come up with novel explanations of the world? To what extent does technological change explain historical and scientific progress? How has the nature of discovery changed over the course of history? What determines the consequences of new ideas? How do scientific innovations relate to other societal institutions, such as religion, the economy, and the state? The course explores these and related questions by analyzing the dynamic relationships between scientific thought, technological innovations, and broader social contexts of religion, art, politics, and morality. We will do this by paying attention to both large, structural changes in scientific institutions as well as micro-histories of particular discoverers and innovators credited (or not credited) with developing new theories, technologies, and ways of thinking. At the same time, we will learn about the 'history of history', or what historians call historiography. With a focus on issues of science and technology, we will cover different approaches to history and discuss how these afford us different types of understandings of the past. Throughout the course, we will utilize concepts from history and philosophy of science, science and technology studies, cultural studies, and related disciplines to shed light on our guiding question: what is the history of knowledge?

Literature

E-Reader consisting of primary and secondary sources

Instructional Format

PBL sessions (two per week) for the first 3 weeks; the final 3 weeks run as a 'book club'

Assessment

Midterm exam (30%)

Final Paper (70%)

Life Sciences Courses

VSC1201 Introduction to Public Health
1000 (Life) Science; Social Science Course
5 ECTS, Fall Semester, Period 1

Course not offered in 2026-2027

Prerequisites

- ✓ None

Recommendations

None

Intended Learning Outcomes

- To provide students with knowledge and understanding of what Public Health encompasses; that Public Health can intervene on several ecological levels (individual, interpersonal, organization, community, society); what the main aims of public health are (disease prevention, health protection, health promotion); and how it has developed over the years.
- After this course, students will have gathered experience in the application of their knowledge and understanding about Public Health; they will also have developed basic skills on how to use available evidence to find solutions for a public health problem and on reporting these solutions.
- Learning skills: After this course students will be able to find their way in the available literature, to follow developments in public health in a critical and efficient way, integrate the different professional perspectives and to collaborate in small teams and critically reflect on personal work as well as on the work of others.

Description of the course

Public Health is the multidisciplinary field of research, practice and policy that aims at promoting health and preventing disease. The aim of this course is to provide a vivid view on public health and to provide insight in: its fundamentals, its methods and the organizations involved in public health. Various aspects of public health such as healthy eating will be addressed from an ecological perspective in which we distinguish between individual, family, organizational, community/environmental and global level. You will study the role of public health on every distinct level and ask yourself if public health interventions should be aimed at the individual, the collective or the environment. What is the role of public health for the chronically ill? How can public health target the family? How can we protect/promote health in the occupational setting and what about health, prevention and public health in developing countries? How can we explain socio-economic health differences and does the built environment play a role in public health problems? Further, you will work in small groups on a nutrition-related public health challenge and you report your findings in a report and a mini symposium.

Literature

- Detels, R. , Gulliford, M. , Abdool Karim, Q. , & Tan, C. C. (2021). *Oxford textbook of global public health* (7th edition). <https://doi.org/10.1093/med/9780199661756.001.0001/med-9780199661756>
- Specific literature that is available in an e-reader

Instructional Format

Lectures and tutorial meetings (PBL)
Project activities in teams

Assessment

Paper, exam with open ended questions and mini symposium

VSC1303 Introduction to Statistical Methods and Data Analysis

1000 (Life) Science; Social Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ None

Recommendations

- A mathematical background of at least the VWO (or equivalent) level.
- This module is a prerequisite for follow-up module VSC2305 Intermediate Statistical Methods and Data Analysis
- Knowledge of basic and advanced inferential statistics is a prerequisite for many Dutch Master programmes

Intended Learning Outcomes

- To provide students with basic knowledge on inferential statistics

Description of the course

This course “Introduction to Statistical Methods and Data Analysis” intends to prepare students to deal with solving problems encountered in research projects, decision-making based on data, and general life experiences beyond the classroom and university setting. Students will learn statistical concepts and techniques that play a role in summarizing and describing data, as well as generalizing the statistical results to the entire population.

In the first part of the course, the focus is on descriptive statistics, in which students will learn how to summarize data. In the second part of the course, the focus is on statistical hypothesis testing. Lastly, students will get acquainted with basic statistical techniques that are used to analyze observed data. In terms of teaching activities, the course provides lectures in combination with tutorials to study the theory in relation to realistic cases, R workshops to gain practical experience in carrying out statistical analyses and journal clubs to practice critical interpretation of statistical information as reported in academic publications.

Literature

- Andy Fields; *Discovering Statistics Using R*; Sage Publications Ltd
- Martin Bader & Sebastian Leuzinger, *R-ticulate – A Beginner's Guide to Data Analysis for Natural Scientists*, 2024 John Wiley & Sons, Inc.

Instructional Format

Lectures

Tutorial meetings (case discussions, R workshops and journal clubs)

Assessment

- Oral presentation
- Final open book exam

VSC1401 Introduction to Chemistry

1000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To have an understanding of the nature of atoms, their electronic structure and its chemical consequences, and their organization in the periodic table of the elements.
- To have the ability to recognize various classes of chemical compounds and to understand their basic physical and chemical properties.
- To obtain an understanding of the basic physical chemistry of fundamental importance to most natural and chemical processes.
- To be familiar with the essentials chemicals mechanisms of reaction, using a few relevant examples.
- To have sufficient background for further, more advanced, courses in chemistry, biochemistry and the life sciences.

Description of the course

From the battery of our phones, the food we eat, to our very thought processes, every aspect of our lives relies on chemistry. This course introduces some key concepts in organic- and bio-chemistry like. We will discuss topics such as the nature of atoms, their electronic structure its chemical consequences; the most important atomic bonds; important chemical reactions and processes and the chemical and physical conditions in which these reactions occur. This course provides a, hopefully, proper introduction for those who want to study chemistry but will also help students gain a deeper understanding of biological processes.

Literature

Paula Yurkanis Bruice, Organic Chemistry. 8th Edition. 2017. Pearson.

Instructional Format

Lectures and tutorial group meetings

Assessment

Participation, two assignments, final exam

VSC2102 Homeostatic Principles

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

Students should have highschool level knowledge of biology (IB Biology) or follow Introduction to Biology first.

Intended Learning Outcomes

- To acquaint students with the different mechanisms for homeostatic control.
- To Provide insight in:
 - Human cellular organization
 - Functional organization of the body
 - Membrane Physiology
 - Cardio-vascular function
 - Skeletal and muscle function
 - Pulmonary ventilation and regulation
 - Kidney function
 - Fluid and electrolyte balance
 - Gastrointestinal fluid resorption and control
 - Neuronal-endocrine regulation

Description of the course

Mathematics is seen as the father of science, Physiology is the mother. Physiology attempts to explain the physical and chemical factors that are responsible for the origin, development, and progression of life. Human physiology investigates the mechanisms of the human body making it a living being (Guyton). In the healthy human body it is of the utmost importance that the working conditions for all cells are kept "constant". In this respect it is noteworthy that essentially all organs and cells of the human body perform functions that help to maintain this constant nature or homeostasis by using feed-back mechanisms. We will begin by discussing the physiology of the cell, and the function of the cell membrane. Continuing, we will discuss cardiovascular physiology, respiratory, fluid and salt balance, followed by the autonomic nervous system and the endocrine system and ending with gastrointestinal physiology, control and feedback. At the end of the course it has become clear to the student that all organ systems in the body maintain homeostasis by a joined effort.

Literature

Multiple sources provided by UM/UCV libraries including textbooks on: Physiology, Biochemistry, Physics, Pathology, Internal Medicine, etc. The use of on-line Study-Tools in Access Medicine (access provided by UB).

Instructional Format

Tutorial meetings and lectures

Assessment

Written exam and a presentation on a physiological subject of choice.

VSC2103 Pharmacology and Toxicology

2000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

Students should have highschool level knowledge of biology or follow Introduction to Biology first.

Intended Learning Outcomes

Students can...

- Explain pharmacodynamic, pharmacokinetic and toxicological principles.
- Examine how pharmaceuticals and toxic substances are handled by the body.
- Individually present the appraisal of a case that is related to a specific compound, in which the compound's dynamics and kinetics are analysed and potential solutions to the given case are discussed.

Description of the course

To understand what active compounds, either natural or synthetic, from foods or drugs, can do in the body, you need to understand how these substances act and how the body handles these compounds. Within this course, the principles of actions of bioactive substances (pharmacodynamics) and how the body handles these bioactive substances through the processes of absorption, distribution, metabolism and excretion (pharmacokinetics) will be studied. The principles of toxicology, how toxic substances affect biological systems, will be introduced. You will learn how to use these principles by studying real life cases of using medicinal products and intoxications, and you will analyse a specific case yourself.

Literature

- Rang H.P., Ritter J.M., Flower R.J., Henderson G. (2016). Rang and Dale's Pharmacology (8th ed.), London: Elsevier Churchill Livingstone.
- Timbrell, J.A. (2008) Principles of Biochemical Toxicology (4th ed.), Boca Raton, FL: CRC Press.
- Original research articles.

Instructional Format

Lectures and tutorial meetings

Assessment

- Case presentations
- Written exam

VSC2104 Molecular Biology

2000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

Interest in biology at molecular level

Intended Learning Outcomes

- To give insight into the basics of molecular biology
- To provide the basics of gene expression and gene control
- To provide the theory behind genetically modified organisms

Description of the course

The general aim of this course is to obtain knowledge about the molecular processes in cell signalling and control of gene expression. Topics include intracellular signalling pathways; chromatin structure and remodelling and finally genetic modifications.

Literature

Molecular Biology of the Cell, Alberts or equivalent books

Instructional Format

Lectures and tutorial meetings

Assessment

Midterm (30%) and end term examination (70%); closed questions and open-ended questions

VSC2105 Microbiology

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

Interest in microbiology.

Intended Learning Outcomes

- To provide students with basic knowledge of bacteria, fungi and viruses
- To give insight into the world of microbes and viruses including a few examples from human perspective

Description of the course

In this course the students obtain basic knowledge of microbiology, i.e. of bacteriology, virology and environmental and applied microbiology. You study the characteristics of a selection of micro-organisms in relation to their related infectious diseases.

Literature

Microbiology: An Introduction, Tortora, Gerard J/Funke, Berdell, R/Case, Christine L

Instructional Format

Lectures and tutorial meetings

Assessment

Midterm (30%) and end term examination (70%); closed questions and open-ended questions

VSC2106 Brain and Action

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

The course is open for all students, however, a background in biology is recommended.

Intended Learning Outcomes

- To make students familiar with the basic division, anatomy, and functions of the central and peripheral nervous system.
- To gain knowledge of the workings and anatomy of the brain's most important structures and functions.

Description of the course

Humans mostly go through their lives without paying much attention to their actions such as breathing, eating, and even learning. Our brain seems to take care of us in an almost effortless way by planning, initiating, and executing our actions and by regulating our somatic homeostasis. The course Brain and Action is concerned with exactly how the nervous system does so. The course deals with the scientific study of the central and peripheral nervous system as well as with some of the latest developments in neuroscience. Via problem-based learning tasks, both anatomy and functions of important neurological structures are examined.

Questions that will be raised during the course are, e.g.: How does the brain develop? How do brain cells communicate? How does the brain control our movement? What happens in Alzheimers or Parkinsons disease? How do environmental factors such as light and food impact our brain? Etc.

Literature

Bear, M.F., (2016). Neuroscience: Exploring the brain (4th ed.). ISBN-13: 978-0781778176, scientific articles, online resources.

Instructional Format

Lectures and tutorial meetings

Assessment

A presentation and an exam

VSC2108 Human Pathobiology

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ None

Recommendations

For students that started in the academic year 2024-2025 or earlier it is strongly recommended to have completed the course:

- ✓ VSC1101 Introduction to Biology

Intended Learning Outcomes

- To recognize the patterns of response of cells to injury
- To recognize and explain the key structural features and pathological alterations observed in tissue samples
- To describe the structural and functional connections between organs and organ systems in disease conditions
- To identify the causes of disease
- To describe relevant molecular alterations and recognize intervention points for therapy including diet
- To practice the skills that enable the delivery of clear, coherent, and persuasive presentations and facilitate constructive discussion

Description of the course

This course intends to introduce students with a non-medical background to the basics of human pathobiology. It will start with an overview of the general pathological processes such as cell injury, cell death, cell survival, inflammation and tissue degeneration. Subsequently, common disorders of the cardiovascular and respiratory systems will be discussed. Special attention will be given to the pathogenesis of the diseases, specifics of the organ's involvement and potential links with clinical presentation. The disease pathobiology will be discussed in connection with the existing treatment approaches including pharmacotherapy as well as diet.

Literature

- Abbas, A. K.; Aster, J. C. Robbins & Cotran Pathologic Basis of Disease, Tenth edition.; Kumar, V., Ed.; Elsevier: Philadelphia, PA, 2021
- Robbins, S. L. Robbins & Kumar Basic Pathology, Eleventh edition.; Kumar, V., Abbas, A. K., Aster, J. C., Deyrup, A. T., Das, A., Eds.; Elsevier: Philadelphia, PA, 2023.

Instructional Format

PBL, lectures, workshops

Assessment

Mid-term exam, presentation

VSC2201 Nutritional Epidemiology

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSK1002 Research Methods I: Quantitative Research/Designing Research: Quantitative and Qualitative Approaches

Recommendations

None

Intended Learning Outcomes

- To gain knowledge on foods and nutrients from an epidemiological and human health prospective
- To get familiar with different dietary assessment methods
- To develop a theoretical and practical foundation of quantitative methods used in nutritional epidemiology
- To learn about experimental design and hierarchy of scientific evidences

Description of the course

The foods we consume each day contain thousands of specific nutrients and chemicals that have a profound effect on human health. However, tracking and understanding the impact of diet on personal and population health is not a trivial task. During this course, you will be introduced to nutritional epidemiology through lectures, tutorial groups, practical training, and self-study. The course focuses on understanding relationships between diet and health at the individual and population level. You will learn and critically evaluate different dietary assessment methods, apply quantitative methods commonly used in nutritional epidemiology, and gain insight into experimental study designs and the hierarchy of scientific evidence.

Literature

Willett W. Nutritional Epidemiology. ISBN978 0 19 975403 8.

This material is available in the Reading Room, UM-Library

Additional literature will be provided during the course

Instructional Format

Lectures, tutorial meetings, and practical trainings

Assessment

Assignments during tutorial sessions (30%) and the final exam (70%).

VSC2203 Food Technology and Processing

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

Highschool level knowledge of chemistry and physics

Intended Learning Outcomes

Gain knowledge in the background of industrial food production, distribution and retail.

Understanding of food preservation and processing.

To gain knowledge of and comprehension in:

- The safety and shelf life of food products.
- The industrial processing of foods products.
- The functionality of additives used in foods.
- Influence of storage and processing on properties of food.
- Interactions between different components of food.
- How organoleptic and nutritional properties are affected during the processing of raw materials.
- How packaging can contribute to the preservation of food products.

Description of the course

All foods consist of a so-called matrix in which microbial, enzymatic, chemical and physical reactions will occur during shelf life, processing and/or changing ingredients. The matrix is meant as a manner to describe the structure of a specific food that identifies that type of product.

Adding, removing or replacing ingredients usually will have many effect in this matrix and will lead to changes in the quality of the food, such as for example sensory quality, nutritional value, shelf life, price, safety attributes, etc.

This course will also highlight the different processes used in the food industry which also have an impact on the food quality aspect.

Literature

Parker, R., & Pace, M. (2017). Introduction to food science & food systems (2nd ed.). Australia: Cengage Learning.

Instructional Format

Lectures, tutorial meetings, practical work at HAS University of applied sciences and a group assignment

Assessment

Group presentation and report of group assignment, written final exam

VSC2204 Public Health Nutrition Policy and Governance

2000 (Life) Science; Social Science Course

5 ECTS, Fall Semester, Period 2

Course not offered in 2026-2027

Prerequisites

✓ None

Recommendations

VSC1201 Introduction to Public Health

Intended Learning Outcomes

Three broad objectives are addressed:

1. issues in public health: What is the importance of the public health system in a country in setting public health policies? Why is it essential to monitor and address health inequalities in public health through policy?
2. issues in public policymaking: How does public health policymaking work in reality under crisis circumstances, like infectious disease outbreaks? And how does public health policymaking work in reality under non-acute circumstances where a shift in responsibility can be seen from government (central steering) to governance (decentral steering)?
3. issues in public policymaking on public health: Special attention will be paid to the role of technology in public health and the importance of economic evaluation in public policymaking, raising ethical and solidarity issues.

Description of the course

In this multi-disciplinary course students will combine insights from various disciplines to understand the policymaking process for public health and nutrition related issues. Student will learn about the role of governments in addressing nutrition and sustainability related public health challenges such as obesity, greenwashing and food environments.

Students will explore the policy making process and its actors involved, study implementation and evaluation challenges and analyse existing policies in relation to nutrition and sustainability. In the project group work students select and analyze a real-world public health or nutrition policy problem, considering contextual factors related to the public health system, governance and stakeholders. Based on their analysis, students propose evidence-informed policy, present their findings, and debate with other students on the proposed policy. By the end, students will have a solid understanding of how nutrition policy and governance can foster sustainable food systems and public health.

Literature

- An e-reader with original articles will be available at the start of the course.

Instructional Format

Lectures, tutorial meetings and workshops.

Assessment

A group presentation with in-depth debate based on the group project work (weight 40%) and an individual written exam at the end of the course (weight 60%)

VSC2205 Nutrition and Metabolism

2000 (Life) Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

VSC2401 Biochemistry

Intended Learning Outcomes

After finishing the course, students will be able to:

- Differentiate between macronutrients and micronutrients based on their chemical characteristics, physiological functions, and metabolic roles.
- Explain and apply principles of digestion and absorption to analyse how macronutrients and micronutrients contribute to energy production and metabolic regulation.
- Analyse the major metabolic pathways and explain how hormonal mechanisms regulate metabolic flux.
- Compare and analyse substrate storage and mobilization across different tissues (liver, muscle and adipose tissue) and explain how these processes are regulated during fed and fasting states.
- Apply and integrate knowledge of nutrition and metabolism to predict metabolic adaptations and outcomes during health and disease states, physical activity and different nutritional status.

Description of the course

In this course, students will explore the journey from food nutrients to cells. Nutrition is a multidisciplinary science that covers the role of food in health and disease. The food we eat directly affects metabolism. Advances in nutritional biochemistry have increased the focus of nutrition on metabolic pathways, improving our understanding of how nutrients influence health and the development of diet-related diseases.

In this course, students will become familiar with the chemical structure and metabolism of nutrients such as carbohydrates, proteins, lipids, and selected vitamins and minerals. Once obtained through the diet, students will learn how these nutrients are converted into available energy for the body.

Building on this knowledge, the course will further develop key concepts of metabolism, catabolism, and anabolism, and examines how metabolism adapts to different physiological states, such as fed versus fasting and sedentary versus active conditions. Students will study how the body selects and switches between energy sources (glucose/glycogen, lipids/adipose tissue, and amino acids/muscle) and how these adjustments are coordinated through the integrated actions of hormones and enzymes. These and other functions of metabolism are covered in this course. Students will also learn how diet, lifestyle, and health status affect metabolism, physiology, and overall health.

Literature

- Ferrier, D. R. (2017). Biochemistry (Seventh, Ser. Lippincott illustrated reviews). Wolters Kluwer.
- Raymond, J. L., & Morrow, K. (2023). Krause and Mahan's food and the nutrition care process (16th edition). Elsevier
- Kennelly, P. J., Botham, K. M., McGuinness, O. P., Rodwell, V. W., & Weil, P. A. (Eds.). (2023). Harper's illustrated biochemistry (32nd ed., Ser. A large medical book). Mcgraw-Hill Education. Retrieved April 10, 2023, from INSERT-MISSING-URL.
- Nelson, D. L., & Cox, M. M. (2013). *Lehninger principles of biochemistry* (6th ed.). Freeman - Macmillan.

- David A. Bender (2004) Introduction to nutrition and metabolism. 3rd ed. Taylor & Francis e-Library.
- Original research articles.
- Review articles

Instructional Format

Lectures and tutorial meetings

Assessment

The learning outcomes of this course will be assessed by two means.

- A written final exam (with open and multiple-choice questions); and
- An oral presentation.

VSC2207 Plant Biology and Agriculture

2000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

None

Intended Learning Outcomes

- To give insight into the plant kingdom and its significance for mankind, through agriculture and the exploration of natural resources.
- To provide students with a solid understanding of plant evolution, development and function in relation to their environment.
- To acquaint students with crop improvement challenges and methods in the context of sustainable food supply.

Description of the course

During this course you will gain insight in the importance of plants for life on earth and their unique adaptations to their environment. The course will illustrate major aspects of plant evolution, morphology and function. Special attention will be paid to domestication and to the methods by which plants have been adapted for agriculture to function as a major resource for food and beyond. The latter will include an outlook on plant biotechnology and emerging technologies.

Literature

Original research articles.

To be complemented by:

Botany: An introduction to Plant Biology, Seventh Edition James D. Mauseth - ISBN: 9781284157352.

Instructional Format

Lectures and tutorial meetings

Assessment

Case presentation and final exam (open questions and multiple choice)

VSC2208 Sensory Science

2000 (Life) Science Course; Social Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this course students are able to:

- Explain the biological and neurological mechanisms underlying human sensory perception, including the physiological basis of sensory thresholds, adaptation, and cross-modal interactions.
- Select and justify sensory evaluation methods (discrimination, descriptive, affective) appropriate to a given research question, experimental context, and panel design.
- Execute a sensory evaluation study by applying appropriate discrimination testing protocols, recruiting and briefing a sensory panel, collecting data, and analysing results using suitable statistical methods.
- Evaluate sensory science research by connecting sensory perception data to physiological mechanisms, consumer behaviour, and food product quality outcomes, identifying the strengths and limitations of the evidence.

Description of the course

Sensory science is an interdisciplinary field of inquiry for measuring and understanding human responses to product features and attributes as perceived by the senses, such as sight, smell, taste, touch, and hearing. In this course you explore the physiology of sensory perception, the science behind sensory evaluation methods, and the application of these techniques with a focus on (but not limited to) its applications in food research (new product development, benchmark testing, quality assessment, etcetera). Through a combination of theoretical knowledge and practical applications, you will gain a comprehensive understanding of how sensory science contributes to the development, improvement, and marketing of (food) products.

Literature

Lawless, H. T., & Heymann, H. (2010). *Sensory Evaluation of Food: Principles and Practices*. Springer.
Meilgaard, M. C., Civille, G. V., & Carr, B. T. (2016). *Sensory evaluation techniques*. CRC Press.

Instructional Format

Lectures, PBL tutorials and workshops

Assessment

Weekly assignments, final project results presentation and a final exam

VSC2209 Global Health Nutrition

2000 (Life) Science Course; Social Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

Students will be able to...

- discuss global health nutrition issues in critical need for attention and identify determinants of nutrition inequities and global food security.
- distinguish nutritional needs of different vulnerable groups (e.g., mothers, infants, adolescents) and related adverse health outcomes of global public health relevance.
- differentiate between existing governmental and non-governmental organisation involved in global health nutrition and their responsibilities.
- review existing policies and action frameworks on global health nutrition issues.
- apply existing knowledge and theories on future challenges that may impact the field of global health and global nutrition therewith distinguishing between the different regions of world and relating relevant policies to this.
- explain how global health nutrition interventions are planned and discuss what factors may obstruct successful implementation.
- describe a current global health nutrition issue to a non-scientific audience and demonstrate how nutrition interventions could prevent, manage, and/or eliminate said issue.

Description of the course

When it comes to nutrition, the global health perspective provides interesting insights. Where one region of the world is trying to fight an obesity pandemic, another part of the world has trouble feeding the population with nutritious food. Very different problems, but both with severe outcomes. In the course global health nutrition, you will dive into the topic of nutrition and health around the globe. By identifying the vulnerable groups, existing problems and previously executed interventions we will improve the understanding of the differences around the world. By combining this knowledge with existing governmental bodies and policies, you will learn to also view these known issues from the governance side. And what about the future? We already know some things that are coming towards us (climate change), but what if it is suddenly here (crisis management)?

You will approach the topics within public health nutrition and global health from an interdisciplinary perspective. As in traditional public health, you will combine biology, epidemiology, behaviour change and policy.

Literature

A literature list will be provided on Canvas

Instructional Format

Lectures & tutorials, challenge discussions

Assessment

Challenge-based research proposal including participation and reflection (60%), team-based assessment (40%)

VSC2305 Intermediate Statistical Methods and Data Analysis

2000 (Life) Science; Social Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSC1303 Introduction to Statistical Methods and Data Analysis

Recommendations

Knowledge of basic and advanced inferential statistics is a prerequisite for many Dutch Master programmes

Intended Learning Outcomes

- To provide students with advanced knowledge on inferential statistics

Description of the course

During “Introduction to Statistical Methods and Data Analysis” students became already acquainted with the basics of inferential statistics and simple statistical techniques to analyze data. Building on the statistical expertise gained during the introduction course (period 2), the current course will guide you through intermediate-level statistics. Key methods you will learn about are analysis of variance, analysis of covariance, multiple linear regression, logistic regression and survival analysis. With these techniques, a broad range of statistical analyses of various types of data can be conducted. In addition, you will learn how to carry out these analyses using the statistical software R. In terms of teaching activities, the course provides lectures combined with tutorials to study the theory in relation to realistic cases, R workshops to practice hands-on statistical analyses and journal clubs to practice interpretation and critical scrutiny of statistical information as reported in academic publications.

Literature

- Andy Fields; Discovering Statistics Using R; Sage Publications Ltd
- Martin Bader & Sebastian Leuzinger, R-ticulate – A Beginner's Guide to Data Analysis for Natural Scientists, 2024 John Wiley & Sons, Inc.

Instructional Format

Lectures

Tutorial meetings (case discussions, R workshops and journal clubs)

Assessment

- Oral presentation
- Final open book exam

VSC2401 Biochemistry

2000 (Life) Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSC1401 Introduction to Chemistry

Recommendations

For students that started in the academic year 2024-2025 or earlier it is strongly recommended to have completed the course:

- ✓ VSC1101 Introduction to Biology

Intended Learning Outcomes

- To acquaint students with the molecular structure of important biomolecules...
- To provide students with knowledge on reaction mechanisms and kinetics
- To give insight into the mechanisms of enzyme action

Description of the course

This course will review a number of molecular components that make up cells: amino acids and proteins, carbohydrates, nucleotides and nucleic acids, and lipids. In the second half of the course the focus will shift to the description of (bio)chemical reactions, their mechanisms and factors that influence their rate. The final topic of the course will be enzymes and how these proteins speed up essentially all of the thousands of biochemical reactions that take place in the cell.

Literature

Victor W. Rodwell, David A. Bender, Kathleen M. Botham, Peter J. Kennelly, P. Anthony Weil. Harper's Illustrated Biochemistry. (Accessible via Access medicine:

<http://accessmedicine.mhmedical.com/book.aspx?bookid=1366>

Bettelheim: Introduction to General Organic and Biochemistry

Also useful: Garrett and Grisham: Biochemistry 5th edition (or newer).

Additional literature will be handed out during the course.

Instructional Format

Lectures and tutorial meetings

Assessment

Presentation

Final test

VSC2501 Climate Change

2000 (Life) Science Course; Social Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSC1501 Sustainable Development: Human Impact on the Earth System

Recommendations

None

Intended Learning Outcomes

- To explore historic, current and future changes in our climate system.
- To review the uncertainties underlying (the modeling of) future climate change
- To examine some key impacts of climate change on human societies and natural systems.
- To explore climate mitigation and climate adaptation strategies (incl. Paris Agreement).

Description of the course

Does it infuriate you when people consider the greenhouse effect to be a bad phenomenon? Do you know your 'RCP2.6' from your 'RCP8.5'? How about the relative importance of carbon dioxide and methane in terms of radiative forcing? Or the difference between climate-friendly and climate resilient? No? Join the club. Very few people understand the nuts and bolts of climate science. And that is a real shame, because climate change is considered to be the greatest environmental threat humanity has ever faced. The Intergovernmental Panel on Climate Change (IPCC) states that the human influence on the climate system is clear. Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions, while the need for adaptation to this new reality is increasingly being recognized.

The course will provide students with a sound understanding of the key drivers and processes of climate change. We will discuss the state-of-the-art climate science, examine some key impacts of (future) climate change, and explore what can be done to address the problem.

Literature

- Introduction to modern climate change by Andrew Dessler. Second edition. Cambridge University Press. ISBN 9781107480674
- Other compulsory reading material will be made available in the E-reader (reference list), in the UM-library E-journals or from the internet.

Instructional Format

Lectures and tutorial meetings

Assessment

- Student group presentation on climate impact
- Final exam: students will be examined by a written test on course weeks 1-6 (post-discussions, compulsory reading and audio-visual material, lectures/documentaries).

VSC2502 Sustainable Food Production

2000 (Life) Science Course; Social Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSC1501 Sustainable Development: Human Impact on the Earth
- ✓ **OR** motivation letter with evidence for knowledge on basic sustainability concepts

Recommendations

None

Intended Learning Outcomes

After attending the course, students should be able to:

- Critically analyze dominant and alternative models of food production.
- Apply systems thinking to assess the sustainability and regenerative potential of food production practices in diverse contexts.
- Design context-specific interventions that support just, resilient, and ecologically sound food systems.
- Reflect on personal and collective roles in shaping sustainable food futures through food choices, professional practices, and civic engagement.

Description of the course

This course explores the principles, practices, and politics of sustainable and regenerative food production in a rapidly changing world. Drawing on interdisciplinary perspectives, students will critically examine how food is produced, who produces it, and under what conditions, with a strong focus on environmental, social, and ethical dimensions. Students will learn about alternative paradigms that challenge dominant industrial models of food production and consumption. Case studies from across the globe will be used to highlight diverse and context-specific approaches to sustainable food production. Topics discussed during the course include power asymmetries in food systems, the multifunctionality of animals, seed politics, organic agriculture, and food waste.

Literature

Mandatory reading:

- Duncan, J., Carolan, M., & Wiskerke, J. S. (Eds.). (2021). *Routledge handbook of sustainable and regenerative food systems*. London: Routledge. [available open access on ResearchGate]

Recommended literature:

- Original research articles are recommended during the course.

Instructional Format

Lectures and tutorial meetings

Assessment

- Essay assignment and presentation (30%)
- Written final exam with open-ended questions (70%)

VSC3101 Gut Microbiology

3000 (Life) Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

VSC2105 Microbiology, and/or VSC3201 Clinical Nutrition, and/or VSC3208 Food and Disease

Intended Learning Outcomes

- To understand the various microbial ecosystems in the human body, in particular the gut, and explain their role in human health as well as their interaction with the immune system
- To analyse the link between lost microbial exposure and the rise in diseases
- To evaluate future solutions to treat and prevent infections and microbiome-mediated diseases
- To understand the principles and (dis)advantages of various (molecular) methods to study microbes and microbial ecosystems and interpret their outcomes
- To evaluate dietary interventions and/or functional foods that positively modulate the gut microbiota

Description of the course

This course focuses on the microorganisms of the intestinal tract, mainly including bacteria. It deals both with the microbiome of the healthy gut and on the role of microorganisms in a range of diseases. Furthermore, ways to influence the gut microbiome with food components, amongst which pre- and probiotics, are discussed.

In addition, you will get hands-on experience with microbiology during lab visits and/or practical workshops.

Literature

- Gut microbiome as a clinical tool in gastrointestinal disease management: are we there yet? Quigley EM. Nat Rev Gastroenterol Hepatol. 2017 Mar 30. doi: 10.1038/nrgastro.2017.29.;
- special focus issue of Gut Microbes on the impact of diet on gut microbiota composition and function;
- The Human Intestinal Microbiome in Health and Disease. Lynch SV, Pedersen O. N Engl J Med. 2016 Dec 15; 375(24):2369-2379.;
- Impact of maternal nutrition in pregnancy and lactation on offspring gut microbial composition and function. Chu DM, Meyer KM, Prince AL, Aagaard KM. Gut Microbes. 2016 Nov; 7(6):459-470.;
- Towards microbial fermentation metabolites as markers for health benefits of prebiotics. Verbeke KA, Boobis AR, Chiodini A, Edwards CA, Franck A, Kleerebezem M, Nauta A, Raes J, van Tol EA, Tuohy KM. Nutr Res Rev. 2015 Jun; 28(1):42-66. doi: 10.1017/S0954422415000037.
- Prescott's Microbiology/ 12th Edition by Joanne Willey and Kathleen Sandman and Dorothy Wood (ISBN 9781264088393)

Instructional Format

Lectures, tutorial meetings, journal club, practical workshops / lab visits.

Assessment

Midterm exam = oral group presentation; final exam = open questions

VSC3102 Behavioural and Environmental Drivers of Health

3000 (Life) Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ One of the following courses: VSC2201 Epidemiology of Food, VSC3208 Food and Disease, VSC2205 Nutrition and Metabolism, VSC3201 Clinical nutrition, VSC3207 Sports Nutrition and physiology.
- ✓ One of the following courses: VSS2102 Behaviour change, VSS2105 Social Psychology, VSC3202 Health education and communication, VSS3101 Performance psychology in Sports and Business

Recommendations

None

Intended Learning Outcomes

- Evaluate the influence of different processes (including their interactions) on one's health throughout the life cycle;
- Debate hypotheses about cause, correlation and effect in factors influencing health;
- Reflect upon mental, social and environmental factors for well-being;
- Critically assess differences between lifestyles that can contribute to a healthy lifestyle in which processes, mechanisms and theories are used as the core of the arguments;
- Evaluate and use relevant and compelling content to illustrate mastery of the subject, conveying their understanding and shaping the whole work.
- Engage peers in ways that facilitate their contributions to meetings by both constructively building upon or synthesizing the contributions of others as well as noticing when someone is not participating and inviting them to engage.

Description of the course

Throughout their lives, humans are exposed to various factors that influence their physical and mental health. Some of these factors are detrimental to health while others have important benefits. This course takes an interdisciplinary perspective, focusing not only on biological, but also some psychological and social factors that determine a healthy life – from conception to old age. In the course we dive deeper into the lifestyle for healthy living with a focus on the complexities in studying such lifestyle factors. We will face the complexities of measuring simple concepts and try to give meaning to the existing body of evidence. Examples of questions that will be addressed include: How does psychological stress experienced during pregnancy influence the infant's health as it grows up? Do dietary supplements help us lead longer and healthier lives? Why do we age, and can we slow down the ageing process?

Literature

- Key publications in reference list
- Scientific literature provided by fellow students

Instructional Format

Lectures and tutorial meetings; facilitation

Assessment

Task preparations (group assignment, 30% of final grade), knowledge clip (individual, 20% of final grade) and final exam (individual, 50% of final grade)

VSC3201 Clinical Nutrition

3000 (Life) Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

VSC2102 Homeostatic Principles, VSC3208 Food and Disease

Intended Learning Outcomes

- To examine the impact of dietary and lifestyle factors on age-related diseases in humans
- To understand how nutrition prevents diseases by exploring underlying mechanisms
- To critically evaluate a research article discussing dietary interventions in health/disease
- To explore how the impact of diet on health can be studied in a metabolic research unit

Description of the course

In this course, the role of dietary and lifestyle factors to prevent age-related diseases in humans will be considered, as well as underlying mechanisms. In addition, it will be addressed how this knowledge can be translated into different forms of dietary support in a clinical setting. Specific attention will be given to a relevant article discussing dietary intervention trials. Examples from real-life situations will be used, while a visit to the research unit in Maastricht will be scheduled.

Literature

- Students are not required to buy a specific book
- Original research articles will be used

Instructional Format

Different instructional formats will be used, including traditional tutorial meetings, a journal club to discuss a research paper, interactive lectures, and a visit to the research unit in Maastricht.

Assessment

- A final written exam consisting of open questions relating to all parts discussed during the course, including the tutorial meetings, journal club, lectures, and research visit.
- A scientific assignment that will be presented and discussed at the end of the course during a special mini-symposium to your fellow-students and the course coordinator.

VSC3202 Health Education and Communication

3000 (Life) Science; Social Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSS2102 Behaviour Change or
- ✓ VSS2105 Social Psychology

Recommendations

For this course knowledge of (health) behavior and behaviour-change is required, since it is the core of this course. If your knowledge is limited make an effort to read into these subjects. The course focusses on the planned and systematic development of a health promotion programme using the Intervention Mapping approach and therefore the book on Intervention Mapping (see literature) includes two chapters (2 and 3) about theories of behavior and the environment that can be of help in this respect. Having participated in course VSC1201 Introduction to Public Health is beneficial, but not a prerequisite.

Intended Learning Outcomes

This course will learn you:

- The systematic development of health promoting interventions that focus on both individual-level behaviour change and changing the environment;
- To systematically develop a theory-based health promoting intervention by following the six-step Intervention Mapping approach (i.e., the focus will be on the developmental stage; step 1 to 4).
- To integrate theory, empirical evidence, and creativity in the development process.

Description of the course

Unhealthy behavior is a main cause of avoidable disease and mortality. In the course 'Introduction to Public Health', you already learned that public health is influenced by factors at different environmental levels, namely the individual, interpersonal, organizational, community, and policy level. In turn, public health is best achieved by intervening beyond individual-level behavior. For instance, by changing the physical environment, the organization of care-facilities or law and legislation. This course is about planning such health promotion interventions in a systematic way. Specifically, by means of the Intervention Mapping approach. This is a versatile planning framework that is used for intervention development, implementation, and evaluation. This course will focus on the developmental phases (step 1 and 4) and briefly touch on implementation (step 5) and evaluation (step 6). By following a stepwise approach, you will develop a blueprint of an intervention using behavior change methods by working together in small groups.

Literature

Planning Health Promotion Programs: An Intervention Mapping Approach, 4th edition (2016) by L. Kay Bartholomew Eldredge, Christina Markham, Robert A.C. Ruiter, Maria E. Fernández, Gerjo Kok, and Guy S. Parcel.

Instructional Format

- Lectures, tutorials and workshops

Assessment

A presentation of the proposed intervention; paper on the proposed intervention plan based on the Intervention Mapping approach & weekly pitches

VSC3203 Food Innovation

3000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

At least to have taken two of the recommended courses.

Recommendations

Some other courses that could be handy for this course are:

VSS2101 Psychology of Eating

VSC3208 Food and Disease

VSC2203 Food Technology and Processing

VSC2205 Nutrition and Metabolism

VSC2208 Sensory Science

VSS3202 Consumer Behaviour

VSC3204 Food Safety

VSC3501 Sustainable Food Production

Intended Learning Outcomes

By the end of this course, students can:

- Analyze food innovation challenges and opportunities within the broader food system using systems thinking.
- Analyze how ingredient functionality, processing, safety, and regulatory constraints shape feasible food product development decisions.
- Evaluate consumer, cultural, ethical, and sustainability factors that influence the acceptance and responsible design of food innovations.
- Propose an innovative food product concept for a defined context by integrating scientific, market, and societal evidence into a coherent food innovation framework.

Description of the course

What does it take to develop innovative food products in a system under pressure—from climate change and health crises to shifting consumer values and technological disruption?

This advanced-level course explores food innovation as a complex, interdisciplinary process that draws on scientific knowledge, systems thinking, and social insight. Students will critically investigate how new food concepts are conceived, developed, and brought to market in an era of sustainability imperatives and rapid technological change. We will analyze topics including ingredient and processing innovation, food structure and functionality, digital food technologies, regulation and risk, and ethical and cultural considerations. Through hands-on projects, problem-based learning, and creative simulation, students will develop and apply a personalized food innovation framework—a model for navigating uncertainty, driving ideation, and producing consumer-relevant solutions in one of the world's most dynamic industries.

Students are expected to build on knowledge acquired throughout their bachelor's studies and work intensively in teams to synthesize scientific and market perspectives, ultimately proposing innovative, responsible, and desirable food concepts.

Literature

Literature will be published on Canvas.

Instructional Format

Workshops, tutorials and lectures

Assessment

Weekly assignments that will outline and construct a food innovation framework, final presentation of the framework, and a final exam.

VSC3204 Food Safety

3000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSC2103 Pharmacology and Toxicology **or** VSC1201 Introduction to Public Health, or a course covering similar content.

Recommendations

None

Intended Learning Outcomes

Students will be able to...

- Critically evaluate food safety governance systems at local and European levels, analysing interactions between scientific evidence, regulatory frameworks and societal values.
- Design and justify risk assessment and risk management strategies for food safety across the food system, taking into account scientific uncertainty, technological developments, economic constraints, and ethical considerations.
- Integrate knowledge from food science, nutrition, law, and governance to develop and defend responsible and innovative solutions to emerging food safety challenges.
- Reflect on the societal, ethical, and sustainability implications of food safety decisions, and formulate well-reasoned positions on contested issues in food regulation and risk governance.

Description of the course

With consumers demanding both safer products and more information about the products they consume, the responsibility of the government, regulatory bodies, and the food industry to ensure food safety is becoming increasingly important. The course approaches food safety as a complex societal challenge within sustainable and globalised food systems, requiring the integration of scientific knowledge, regulatory frameworks, societal values, and responsible innovation.

This course focuses on the different aspects concerning safety across all stages of food production and consumption. Safety issues related to the production, storage, and distribution of foods will be studied (including contamination and food authenticity), as well as role of standards, monitoring systems, and regulatory frameworks in controlling these risks at national and international levels. Throughout the course, students will analyse how scientific evidence, policy decisions, technological developments, and societal expectations interact in shaping food safety governance. By combining perspectives from food science, nutrition, and law and governance, the course aims to provide students with the tools to critically evaluate existing systems and to develop responsible and innovative approaches to emerging food safety challenges.

Literature

Original research articles

Instructional Format

Interactive lectures, site visit or guest lecture, and tutorial meetings.

Assessment

- Case analysis (30%)
- Group project (proposal and final report) (50%)
- Individual oral defence/reflection (20%)

VSC3206 Nutritional Pharmacotherapy

3000 (Life) Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

- ✓ VSC2103 Pharmacology and Toxicology

Recommendations

VSC2104 Molecular Biology

Intended Learning Outcomes

- To provide general knowledge on pharmacotherapy for various diseases.
- To give insight in the possibilities to optimize pharmacotherapy with dietary components (nutrition) and food supplements.

Description of the course

The course will start with an introduction on the role of reactive oxygen species (ROS) and oxidative stress in (chronic) disease. Subsequently, pharmacotherapeutical options for various diseases like cardiovascular diseases (hypertension, heart failure), lung diseases (asthma, COPD) and diabetes will be discussed. Furthermore, during this course the adaptive response in cells, inducing either repair mechanisms or enhanced protection after exposure to (low) doses of a toxicant will be investigated. In all these processes the role of nutrition and nutritional components (e.g. food supplements) on the efficacy and safety of the pharmacotherapy will be the common thread running through the course.

Literature

- B. Halliwell and J.M.C. Gutteridge. Free Radicals in Biology and Medicine, 5th Edition. Oxford University Press (2015);
- Bast and J.C. Hanekamp. Toxicology: What Everyone Should Know: A Book for Researchers, Consumers, Journalists and Politicians. Academic Press, Elsevier (2017);
- H. P. Rang, J. M. Ritter, R. J. Flower, and G. Henderson. Rang and Dale's Pharmacology, 8th Edition. Churchill Livingstone, Elsevier (2015);
- Original research articles.

Instructional Format

This course will consist of lectures and tutorials.

Assessment

The assessment will comprise writing a mini-review and a final exam (open questions).

VSC3207 Sports Nutrition and Physiology

3000 (Life) Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSC2102 Homeostatic Principles

Recommendations

Prior to starting this course, it is recommended to complete one of the following courses: VSC3208 Food and Disease, VSC2205 Nutrition and Metabolism, VSC3201 Clinical Nutrition

Intended Learning Outcomes

- To analyse how the human body responds to exercise and how environmental input can modify these responses
- To differentiate training adaptations in resistance and endurance athletes
- To explain how various energy stores in the human body contribute to the fuelling of muscle work
- To analyse how nutrition can be used to optimise energy flow during exercise
- To analyse clinical evidence on the use of food supplements in sports

Description of the course

“Sports Nutrition and Physiology” is a cross-disciplinary course during which you will learn how the human body reacts to exercise, which adaptations develop with resistance and endurance training, and how nutrition can be used to accommodate sports performance. During the tutorials, responses of the cardiovascular, respiratory and musculoskeletal systems to a single exercise bout will be discussed. Also, the principles of exercise training and training-related adaptations in various organs and systems will be addressed. Students will acquire knowledge on the process of energy transfer which facilitates muscle work during exercise. They will also build an understanding of the dietary strategies and nutritional supplementation which can be used to support energy supply during exercise and, thus, enhance performance in various sports. The knowledge obtained during this course will increase one’s understanding of why a right balance between nutrition and physical activity is needed to ensure optimal health in recreational athletes.

Literature

A combination of basic books and E-reader will be used

Instructional Format

Lectures and tutorial meetings

Assessment

A presentation and a written exam

VSC3208 Food and Disease

3000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSC1101 Introduction to Biology or VCO1006 Biological Foundations of Nutrition and Health

Recommendations

VSC2205 Nutrition and Metabolism

Intended Learning Outcomes

To gain knowledge and insight in:

- Nutrition (macro and-micronutrients), bioactive substances, anti-oxidants
- Macronutrient digestion, partitioning and utilization
- The main diet-related chronic diseases
- Dietary recommendations
- Novel and functional foods and their impact on human metabolism
- Multifactorial problems like obesity and diabetes and cardiometabolic diseases, insight in the role of organs, including the gut microbiome, adipose tissue, liver and muscle, as well the interorgan crosstalk in their etiology
- Impact of diet, lifestyle in the prevention of chronic metabolic diseases (mainly diet), including the role of energy restriction and intermittent fasting, non-caloric sweeteners and precision nutrition
- Basic principles of the measurement of dietary intake, dietary status, energy expenditure, substrate oxidation and insulin sensitivity

Description of the course

This course covers briefly the basics of normal nutrition for optimal health outcomes and focusses on evidence-based diets in the prevention of chronic metabolic diseases. Participants will learn the fundamentals of nutrition science, nutrient partitioning, storage and utilization. Focus will be on the role of diet and dietary intervention in the prevention of chronic metabolic diseases like obesity, diabetes and cardio-metabolic diseases.

Literature

This literature section only involves basic textbooks, more specific articles will be provided in the course manual.

Basic literature:

- Insel P. - *Nutrition* – 6th edition - Jones and Bartlett publishers
- Hall, J and Guyton A - *Guyton and Hall Textbook of Medical Physiology* – 14th edition
- McArdle W.D., Katch F.I., Katch V.L - *Exercise Physiology: Nutrition, Energy and Human Performance* - 9th edition
- Frayn, Keith N - *Metabolic regulation: a human perspective* – 3rd edition - Wiley-Blackwell Oxford 2010
- Silverthorn, Dee Unglaub - *Human Physiology: An Integrated Approach* – 8th edition - Pearson
- Bray, G.A. & Bouchard, C. - *Handbook of obesity* – 3rd edition

Instructional Format

Lectures and tutorial meetings, practical assignment to present how ta disturbances in metabolic pathways relate to obesity and type 2 diabetes and how it can be modulated by diet.

Assessment

Course exam contains 10 open questions and accounts for 75% of end grade. An assignment including the presentation on a metabolic pathway accounts for 25% of the end grade.

VSC3302 Bioinformatics

3000 (Life) Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSC1101 Introduction to Biology **OR** VSC2104 Molecular Biology **AND**
- ✓ The Applied Researcher I, II, III

Recommendations

None

Intended Learning Outcomes

At the end of this course/skill/project students should be able to:

- Understand and articulate the fundamental principles of bioinformatics and their role in modern molecular biological research.
- Navigate and critically use major biological databases (including NCBI, UniProt, and PDB) to retrieve, interpret, and cross-reference biological information.
- Describe the core concepts underlying sequence analysis, structural analysis, and systems biology, and explain how these concepts relate to one another.
- Apply bioinformatics techniques to analyze genomic data, including the identification of genes, regulatory elements, and biologically meaningful variation.
- Select and use appropriate software tools to visualize and interpret bioinformatics data, and communicate findings clearly.
- Critically evaluate the outputs and limitations of bioinformatics methods, recognizing sources of error, bias, and uncertainty in computational analyses.

Description of the course

This is a seven-week, game-based course, where students work in teams to investigate a simulated viral outbreak using real bioinformatics tools and methodologies. The goal is to analyze, annotate, and interpret genomic and transcriptomic data to understand a viral threat, and to present and defend your findings. The course is structured as an escape room: each week corresponds to a distinct analytical challenge (a Room), and teams must clear a pass/fail checkpoint (the Boss Gate) before advancing. Each team's progress is documented and submitted as a comprehensive written report, followed by a final presentation where students must defend their findings and respond to critical questions.

The simulation game is inspired by the COVID-19 pandemic and uses it as a narrative framework to drive the analytical work for the student teams. All exercises are grounded in fundamental bioinformatics tools and topics (Databases, Genomics, Transcriptomics) that apply broadly across molecular biology and genomic research, well beyond the specific case used in this course.

Literature

All literature needed is available through LibSearch and Keylinks

Instructional Format

Lectures and practicals

Assessment

Individual Mini-exams (2), Team Report, and Team Presentation

VSC3502 Planetary Health

3000 (Life) Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

One of the following courses/skills

- VSC1501 Sustainable Development: Human Impact on the Earth System
- VSC2501 Climate Change
- VSC3501 Sustainable Food Production
- VSK2012 Integrated Sustainability Assessment of Climate Change

Recommendations

None

Intended Learning Outcomes

At the end of this course, we expect you to be able to:

- Discuss Planetary Health as part of the broader discussions about the Anthropocene and Planetary Boundaries;
- Explain the basic mechanism and the underlying connection between the health of our Planet, Nature, Animals and Humans;
- Identify the key physical and mental health impacts related to functioning of Earth's natural systems;
- Explore different perspectives on Planetary Health, including indigenous perspectives;
- Discuss planetary-health friendly and resilient systems, and potential adaptation strategies, including (intergenerational) inequities and vulnerabilities;
- Identify strategies that foster hope and collaborative action to mitigate or adapt to climate change.
- Develop an Integrated Systems Perspective of Planetary Health, which requires to explore methods and concepts such as Nature Based Solutions.

Description of the course

Human populations are healthier than ever before, but to achieve this we have exploited the planet at an unprecedented rate. On our current trajectory, we will put even more pressure on the Earth's natural systems. The so-called Great Acceleration of human activities and associated environmental impacts has significantly changed our natural systems and the human relationship with these systems. We are faced not only with climate change, but also with declining biodiversity, shortages of arable land and freshwater, pollution, and changing biogeochemical flows. We are dramatically affecting our global food production system, the quality of the air we breathe and of the water we drink, our exposure to infectious diseases, and even the habitability of the places where we live. There is increasing evidence of the diverse impacts of global environmental changes that are affecting global health on a large scale. Climate change, for example, has been referred to as "the biggest global health threat of the 21st century".

These changes in our global environmental systems pose significant challenges in view of sustainable development. They profoundly affect the earth's life-support systems and raise fundamental questions how human beings relate to their natural environment and to other species. Hence, from a sustainable development perspective we need to meet the needs of the present, while safeguarding Earth's life-support system on which the health and wellbeing of current and future generations depends.

By the end of this course, you will be able to deconstruct the concept of planetary health, reflect on the central role of planetary health in the sustainable development debate, and assess some of the key methodological challenges (incl. interdisciplinary cooperation) in the field.

Literature

The recommended text for all Martens, P. (2023). *Planetary Health: the recipe for a sustainable future*, University of Maastricht.

This will be supplemented by readings that will be made available to students before the respective lectures via the University's e-learning platform.

Instructional Format

- PBL sessions
- Lectures, case studies, and interactive discussions
- Team-based research projects and hands-on activities
- Gaming and scenario-modelling exercises

Assessment

- Essay on Planetary Health
- Written exam

Social Sciences Courses

VSS1201 Introduction to Business Administration

1000 Social Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To introduce students to topics in business and entrepreneurship. In addition, the course prepares students for elective courses in business and entrepreneurship

Description of the course

Business administration studies problems within the firm and relates to problems in the fields of marketing and logistics, finance, accounting and information management and organization strategy and entrepreneurship. This course introduces students in the various topics that are related to business and entrepreneurship so that students have basic knowledge for the more specialized courses in these domains. The integration of the knowledge on these topics will take place by running a management simulation that covers all stages of setting up and running a business (Market place live).

Literature

- E-reader.
- Course material on the Market Place simulation.

Instructional Format

Tutorial group meetings and teamwork.

Assessment

A midterm test, participation, reflective paper and ranking in the market place management simulation.

VSS2101 Psychology of Eating

2000 Social Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To provide insight into the various psychological influences on eating behaviour
- To provide insight into how the psychology of eating can be studied
- Critically analyzing in pairs a provided topic related to psychology of eating

Description of the course

Whether we eat, and how much we eat, is not just a mere consequence of the presence or absence of hunger and satiety hormones. Psychological processes too have powerful influences on eating behaviour. During this course, you will learn about a wide variety of these psychological influences. We will cover questions such as: Why do we like certain foods and dislike others? How does our social environment affect our eating behaviour? Why do we eat more from larger plates? How does our brain respond to the sight of tasty food? Why do some people overeat whereas others don't? What are eating disorders?

Literature

Different articles and sources will be provided through KeyLinks, and are listed in the syllabus.

Instructional Format

Lectures and tutorial meetings.

Assessment

A video presentation (assignment in pairs) and a final written exam.

VSS2102 Behaviour Change

2000 Social Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- You can name and describe various psychological theories of behaviour and motivation.
- You can explain and argue how different theories can be applied to change people's behaviour.
- You can compare and contrast the main theories and ideas regarding behaviour change.
- You can apply theories and ideas to understand behaviour across different domains.

Description of the course

Many people occasionally engage in undesirable or unhealthy behaviours, such as eating too much junk food, smoking, or not putting on sunscreen.. People are often aware of the potentially negative consequences of these behaviours, but knowledge alone rarely motivates behaviour change. During this course you will learn about how to change health behaviour for the better. We will cover questions such as: Why is it so difficult to change our behaviour, despite our best intentions? How can we effectively change unwanted or unhealthy, behaviours? We will look at how individual, social, and environmental factors may contribute to behaviour change.

Literature

The relevant literature references will be provided through KeyLinks, and are listed in the syllabus.

Instructional Format

Lectures and tutorial meetings.

Assessment

An intervention plan report about a potential need for behaviour change, and weekly assignments for every task (writing exam questions).

VSS2105 Social Psychology

2000 Social Science Course

5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- You can recall and explain basic social psychological theories and models (e.g. attribution theory; bystander effect) that explain how people's thoughts, feelings, and behaviour are influenced by the implicit or explicit presence of other people.
- You can deduce the relevance of some early experiments or readings (e.g. Sherif et al. (1998); Schachter (1951)) for the development of specific social psychology research areas.
- You can describe a specific social psychological theory and/or model and apply your knowledge about it to examples given to you.
- You can identify and choose academic sources that will give you additional, deeper understanding of a specific social psychological theory/concept beyond the compulsory reading and apply it correctly to example(s) chosen by yourself.
- You can describe orally a social psychological theory and/or model and explain how it relates to current/ everyday life example(s).
- You can demonstrate that you have read and grasped part of the compulsory reading by formulating a new question for your fellow students which requires them to recall, describe and/or comprehend at least two of the compulsory sources.
- You have basic knowledge on the primary aspects of social psychology and are able to reproduce this knowledge in the form of the final assignment.

Description of the course

People are inherently social beings and social structures within and between groups influence cognitive, affective, emotional, and behavioural processes. This course discusses (un)conscious social structures in different shapes and forms – like talking a friend into going bungee-jumping (“Come on, we will all go, you don’t want to spoil this, do you?”).

But social influence can also be more covert and can go beyond behaviour, involving thoughts and feelings. In this course you study different social psychological concepts, theories and models and you apply them to current examples. These examples are visualized in the discussion and in the final assignments, which gives you a possibility to explore the cross-sectional relationship of social psychology to health, sustainability, personality, or for example, leadership.

The course offers a variety of classical themes and – literature and contemporary topics, to provide an wide perspective on conformity, prejudice, stereotypes, (group) behaviour, cognitive dissonance, and forming of (romantic) relationships.

Literature

- The main literature consists of an e-reader containing different academic articles.
- In addition, books are available (example: Hewstone, M., Stroebe, W., & Jonas, K. (2015). *An introduction to Social Psychology* (6th Ed). Chichester: Wiley. ISBN: 978-1-118-82353-8.)

Instructional Format

Lectures and tutorial meetings

Assessment

- A written individual assignment that you complete in cooperation with group members
- A group assignment
- A (group) presentation

VSS2203 Finance and Investments

2000 Social Science Course

5 ECTS, Fall Semester, Period 2

✓ None

Recommendations

None

Intended Learning Outcomes

- Gain comprehensive knowledge of investment and financing decisions crucial for corporate financial management.
- Develop practical skills in valuation techniques and portfolio management.
- Understand the role of emerging technologies (AI, blockchain, cryptocurrencies, fintech) in transforming financial markets.
- Enhance critical thinking through real-world financial cases, including crypto market dynamics, corporate strategies, sustainable investments, and risk management.
- Prepare for professional roles in financial analysis, asset management, entrepreneurship, and strategic financial planning.

Description of the course

Discover the dynamic world of finance with our innovative course: Finance and Investments (VSS2203)!

In a rapidly evolving financial landscape shaped by groundbreaking technologies like artificial intelligence, blockchain, cryptocurrencies, and fintech, understanding the complexities of investment and corporate finance has never been more exciting—or more essential.

Throughout this engaging and interactive course, you'll explore how modern businesses make crucial investment and financial decisions to maximize shareholder value. You'll unravel mysteries behind hot financial topics such as AI-driven investment portfolios, the booming crypto markets, and blockchain innovation.

What can you expect?

- **Hands-on Learning:** Interactive tutorials blending theory with real-world cases.
- **Trend Integration:** Deep dives into contemporary issues—cryptocurrencies, AI applications, fintech innovations, and recent market trends.
- **Practical Skills:** Master valuation techniques, portfolio management, financial decision-making, and risk assessment tools essential for today's finance professional.
- **Industry Insight:** Explore case studies on recent events like crypto mania, financial bubbles, corporate raids, and tax strategies, equipping you with critical insights relevant to current market dynamics.

Whether you're a future entrepreneur, a budding investment analyst, or simply passionate about staying ahead of financial trends, this course provides you with the essential tools and up-to-date knowledge to thrive in today's financial ecosystem.

Literature

- Berk & De Marzo, Corporate Finance, Pearson Prentice Hall

Instructional Format

PBL, lectures, and tutorial meetings

Assessment

Midterm exam, final case, and participation

VSS2206 Supply Chain Management

2000 Social Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

Students understand core supply chain concepts and theories and use them in relation to the wider business environment. Students can solve practical problems using tools and techniques, and interpret the outcome to advice on collaborations in supply chains. Students learn to analyse ethical and sustainable issues in supply chains that affect their daily lives and make choices to reflect these considerations.

Description of the course

This course is an introduction course into supply chain management, in particular we will focus on how supply chains in for example the food, fashion and health care industry are designed. Students will acquire a solid foundation in the topics of both logistics management and supply chain management. While a strong internal operations function is vital to a firm's survival, it is not sufficient. Firms must also understand how they link with their supply chain partners, including customers, distributors, manufacturers, and suppliers. In this course, we will cover a wide range of topics such as supply chain strategy, collaboration, purchasing, logistics, inventory, ethics and sustainability. Students learn directly about these concepts from a textbook and application to cases and exercises, and additionally work on a team project to analyse a part of a supply chain.

Literature

Christopher, M. (2022). *Logistics & supply chain management*. Sixth edition. Pearson UK. ISBN: 978-1292416182

Instructional Format

Lectures and tutorial meetings

Assessment

Group project, Participation, and Individual assignment.

VSS2301 Entrepreneurship

2000 Social Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

VSS1101 Introduction to Psychology or VCO Behaviour and Decision-Making **OR** VSS1201 Introduction to Business Administration

Recommendations

None

Intended Learning Outcomes

- You are able to explain and illustrate the unique qualities of the entrepreneurial process.
- You are able to explain and illustrate the unique qualities of entrepreneurs.
- You are able to explain how entrepreneurial opportunities are discovered and created.
- You are able to explain how entrepreneurship is related to economic development and ecosystems.
- You are able to explain how entrepreneurs link value creation to value appropriation.

Description of the course

In this course you will be introduced to some of the key insights on entrepreneurship that academics in the social sciences have produced. You will search the literature to unravel what drives entrepreneurs and the entrepreneurial process. We will focus on new venture gestation: the initial stages of the process that may result in a new company to emerge. Throughout the course you will explore how entrepreneurs not only rely on generic business management principles, but also how they cope with the uncertainty, risk, scarcity of time, capital and other resources that is inherent to all entrepreneurial venturing. Perhaps you will conclude that many entrepreneurs are in fact not really good managers (good entrepreneurs will compensate for this by hiring better managers). We start the course by explore the process dynamics of entrepreneurial activity and the importance of entrepreneurship for the society/economy. We then will explore the origins of entrepreneurial opportunity, review how entrepreneurs screen and develop the opportunities that they discover, and you will unravel how entrepreneurs seek to appropriate the returns from their enterprising behaviour. You will learn that entrepreneurship is quite distinctive from "management." It is also a phenomenon that is studied by many disciplines. Sociologist, psychologists, economists (working inside and outside business schools) have studied entrepreneurship, and their findings provide an important intellectual foundation to this course (and to entrepreneurial practise). Perhaps surprisingly, in most economic theory the entrepreneur is neglected. However, several economists have pointed to the increasingly important role of entrepreneurs in modern economies. It is not a course in which you prepare the start of a new venture. Nevertheless, you may expect the course to inspire you to start exploring opportunities that you could pursue next to, or after your studies.

Literature

We provide a list of scholarly articles that can be used in this course. All readings can be obtained free of charge through the UM library.

Instructional Format

Tutor Group sessions will help you explore the relevant literature and to learn how scholarly findings can help you to explain, understand and/or predict enterprising behaviour. Case discussions will help you to explore how (well established and more recent) scholarly insights can be used to inform entrepreneurial decision-making.

In addition to the literature and case discussions, there is a group project on a business opportunity in some country/region resulting into a group presentation. A(n individual) business consulting project is connected to this group project.

Assessment

Take home exam plus consulting essay plus group presentation plus participation/cases.

VSS3101 Performance Psychology in Sports and Business

3000 Social Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

One psychology course at the bachelor level or in possession of a waiver (also see recommended).

Recommendations

If you want to be eligible for a waiver, you should be highly motivated to follow this course and willing to put in extra effort.

Intended Learning Outcomes

After this course

- You grasp key performance psychology principles for sports, business, and high-pressure domains.
- You can apply confidence, motivation and goal-setting theories like self-determination and SMART goals in real-life sports or business scenarios.
- You can assess techniques for enhancing performance, including confidence-building and emotion regulation.
- You can analyze and strategize against psychological barriers like stress and anxiety that hinder optimal performance.
- You can, together with a fellow student, constructively use an AI-tool to analyse a performance psychology question/scenario and critically analyse the output.
- You can synthesize course information and apply performance psychology concepts to real-life examples, discussing them in an engaging manner.
- You can reflect critically on your performance, identifying barriers and formulating a personal improvement plan.

Description of the course

“Success is a journey, not a destination” (Arthur Ashe)

In this course, students will deepen their understanding of how individuals build mental toughness and overcome obstacles that hinder optimal performance. They will explore key psychological processes and skills that support people in unlocking their full potential.

Specific topics covered will focus on psychological factors and skills on the individual level. Topics studied will include mental imagery, focusing, confidence, coping with anxiety and setbacks, and the psychology behind the use of performance enhancing drugs.

While many of the examples in the course manual are drawn from the fields of sports and business to illustrate core concepts and spark discussion, there is ample room to apply these insights to other high-performance domains, such as healthcare and rehabilitation, emergency services (e.g., paramedics, firefighters), and education.

Literature

A selection of articles will be provided, but you are also expected to search for and select additional articles on your own.

Instructional Format

Tutorial meetings, recorded and on-campus lectures

Assessment

Assessments are scheduled during two moments (approx. half-way and at the end):

- Think-Pair-Share activity resulting in a critical presentation using AI (individual/group assignment)

- Writing a mid-week Performance Psychology blog, including one person reflection post (individual assignment)

VSS3102 Taste

3000 (Life) Science; Social Science Course

5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSS2101 Psychology of Eating

Recommendations

VSS1101 Introduction to Psychology

Intended Learning Outcomes

- You can name and identify anatomical structures and their functions regarding taste and smell perception.
- You can describe and explain the causes and consequences of taste and smell dysfunction.
- You can understand and apply techniques measuring how well anyone can taste or smell.
- You can explain how and why certain environmental cues influence flavour perception.
- You can reflect on how sight, touch, and hearing contribute to one's overall experience of flavour.
- You can argue and explain how learning and memory determine the development of flavour likes and dislikes.

Description of the course

This course covers the latest insights in the psychology of the sense of taste. Through problem-based learning tasks and portfolio workshops, we examine the sense of taste and how it relates to food selection and intake. Various topics will be addressed, such as the importance of integrated gustation and olfaction in taste perception, the dynamics of taste acuity, the consequences of taste changes, taste disorders and their impact on psychological well-being, and the role of memory and context in taste perception.

Literature

No compulsory literature

Instructional Format

Lectures and tutorial meetings

Assessment

A portfolio containing a variety of assignments pertaining to different formats of science communication (e.g., blog, podcast, infographic, social media stories or essay) and a midterm written assignment reflecting on all the topics covered in the course.

VSS3202 Consumer Behaviour

3000 Social Science Course

5 ECTS, Spring Semester, Period 5

Prerequisites

✓ none

Recommendations

None

Intended Learning Outcomes

- Learn to use theories from (behavioural) economics, marketing and psychology to understand and predict people's choices
- Understand how companies and governments can use these theories to reach their desired goals
- Become acquainted with empirical methods used to identify the behaviour and preferences of consumers

Description of the course

In this course we explore how consumers make decisions and how companies and governments use that information. We will explore, among other things, how people decide which insurances to buy – if any, how consumers deal with decisions that have consequences over time, and how we can stimulate ethical consumption. After the course you can explain, why are there so many brands of toothpaste, why cellphone plans are so complicated, why you are obliged to buy medical insurance, why people say they will buy Fairtrade products, but don't, and more. In addition to theories and empirical findings we will also discuss the empirical methods used to investigate these questions.

Literature

Solomon, M. R., & Russell, C. A. (2024). *Consumer Behavior: Buying, Having, and Being* (14th ed., Global ed.). Pearson.

In addition, academic papers will be assigned.

Instructional Format

Lectures and tutorials

Assessment

Participation including presentations and a final paper.

VSS3301 Social and Environmental Entrepreneurship

3000 Social Science Course

5 ECTS, Fall Semester, Period 2

Prerequisites

At least one of the following courses:

- ✓ VSS1201 Introduction to Business Administration
- ✓ VSC1501 Sustainable Development: Human Impact on the Earth System
- ✓ VSS2301 Entrepreneurship

Recommendations

Students should be in at least their third semester to take this course

Intended Learning Outcomes

On the successful completion of this course you should be able to:

- Critically reflect on social and sustainable entrepreneurship theory and practice
- Identify and evaluate social and sustainable entrepreneurship opportunities
- Develop a strategy for a social/ sustainable enterprise
- Conduct primary research and analyse primary and secondary data in the field of social and sustainable entrepreneurship
- Prepare and present documentation to pitch a novel enterprise idea
- Learn to cope with the chaos and complexity of doing social and sustainable entrepreneurship in the real world.

Description of the course

Interest in the concept of social and sustainable entrepreneurship has been sparked over the last two decades due to frustration with inefficient, ineffective and failed action of government and philanthropic bodies, as well as the socially destructive behaviour of many businesses. An explicit and central social/sustainable mission, innovation, creativity and a strong market orientation are the distinguishing features of social and sustainable entrepreneurship. Social and sustainable entrepreneurs are committed to furthering a social and/or sustainable mission, and rank social, environmental or cultural impact on a par with, or above, profit. At the intersection of business, government and not-for-profit organisations, these social and sustainable entrepreneurs are now visible and having an impact on a global scale.

This course will provide you the opportunity to learn how you can apply your knowledge and skills to address complex sustainability problems. This course is structured around experiential problem-based learning, providing you the opportunity to synthesise theory and practice as you develop an idea for your own social/sustainable enterprises. Topics will include: critically reviewing concepts; user centred-design of social and sustainable enterprises; frameworks for understanding and strategizing; understanding and reporting social and environmental impact; and cross-sector collaboration.

Literature

eReader with papers & Harvard Business cases (You need to pay for your cases, 1pprox. €15).

Instructional Format

Lectures, workshops and tutorial meetings

Assessment

- A. Participation (10% of final grade) - Weekly
- B. Facilitation (20% of final grade) – 50-minute session
- C. Individual Video Pitch (Problem/Opportunity) (20% of final grade) – 90 second video
- D. Group Pitch (25% of final grade) – 8-minute pitch + Pitch Deck

E. Social/Sustainable Enterprise portfolio – group assignment (25% of final grade)

Skills Trainings

VSK1000 The Applied Researcher I

1000 Core Skills Training

2.5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this skills-training...

- Students have improved their ability to identify and select relevant (scientific) sources, which they can use to support their research question.
- Students have become aware of the importance of analysing a real-life problem sufficiently in order to formulate an adequate research question and hypotheses.
- Students have learned important lessons on systematic, critical, and ethical research.
- Students have learned to design and plan a realistic research project and are able to convey the importance and feasibility of the research project in a written research proposal.
- Students have improved relevant soft skills (planning, communication, team working).

Description of the course

The Applied Researcher I is the first part of a three-period research project, in which student groups will work on a research problem provided and supervised by a UM researcher. Before the start of the project students are given the opportunity to designate their preference for a specific problem. Study fields include e.g. Food Innovation, Psychology, Public Health, Marketing/Health Claims,.... The problems provided challenge students to study an issue that is still not fully understood and the answer to the problem has applied implications.

In this project period the focus will lie on analyzing the problem and on coming up with a feasible research plan that sets the foundation for the data collection phase (The Applied Researcher II) and the analysis-writing up results phase (The Applied Researcher III).

Literature

Students will be provided with a small number of content literature that is related to their research focus. In addition, some general literature resources are recommended. However, for the most part students are expected to search for and identify credible and relevant sources by themselves.

Instructional Format

Research mentor meetings with the assigned supervisor, lecture(s), workshop(s), presentation.

Assessment

Written fact sheet (individual assignment) and ethical review application form (group assignment).

VSK1001 Academic Inquiry and Information Literacy

1000 Core Skills Training

2.5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this skills training students should be able to:

- Apply systematic search strategies to locate and select academic sources appropriate to a given scientific question.
- Develop and communicate academic arguments that integrate evidence from academic sources into a coherent line of reasoning.
- Interpret data and findings from academic sources to draw evidence-based conclusions.
- Apply AI-supported and digital research tools in a documented and academically responsible manner.

Description of the course

This skills training develops core competencies in academic inquiry and information literacy. Students learn to locate and evaluate academic sources, interpret data and findings from the literature, and construct and communicate evidence-based arguments in written and oral form. Digital and AI-supported tools are introduced as research aids, with emphasis on documented and responsible use within sustainability and food-system contexts.

Literature

Original research articles

Instructional Format

Lectures, workshops, journal clubs and tutorials

Assessment

Written assignments and oral presentations.

VSK1002 Designing Research: Quantitative and Qualitative Approaches

1000 Core Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this skill students should be able to:

- **Describe** the basic characteristics of quantitative and qualitative research approaches, including their purposes, strengths, and limitations.
- **Distinguish** between quantitative and qualitative research designs and **identify** when each approach is appropriate.
- **Formulate** clear and relevant research questions, objectives and hypotheses.
- **Construct a theoretical framework** to support your research design and methodological choices.
- **Outline** a basic research design by selecting an appropriate study population and sampling method, defining and operationalizing key variables, and finally choosing suitable measurement techniques for data collection.
- **Apply** principles of both quantitative and qualitative research by incorporating elements of each into a single concept publication.
- **Write** a full concept publication in academic language using a strict IMRaD (Introduction, Methods, Results, and Discussion) format.
- **Discuss** the concepts of validity and reliability of their invented research findings.

Description of the course

This skills training is a preparatory, design-focused introduction to **quantitative** and **qualitative** research. Students learn how to formulate research questions and hypotheses that can be tested, and understand how different methodological approaches can be used to address them, including their respective strengths and limitations. The training focuses on the logic of research design, guiding students in developing a methodologically sound study by selecting appropriate populations, conceptualizing and operationalizing variables, and choosing suitable measurement techniques for data collection. Students apply these principles by writing a full “concept publication”, a hypothetical, practice-oriented research paper that simulates the structure (IMRaD) and academic style of a real journal article on a topic of their own choice, using invented but plausible content. They are required to design the hypothetical study using one primary approach while also integrating elements of the other. This training prepares students for subsequent research courses at UCV (Applied Researcher, Peers, Capstone) in which they will conduct real-life research and report empirical results.

Literature

- Original Research Articles; Books available online via UM Library and as hard copies on campus

Instructional Format

Lectures, tutorials, workshops, Q&A sessions

Assessment

Homework assignments and final Concept Publication.

VSK1004 The Applied Researcher II

1000 Core Skills Training

2.5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ VSK1000 The Applied Researcher I

Recommendations

None

Intended Learning Outcomes

At the end of this skills-training...

- Students have acquired experience in the collection and recording of data, such as implementing a measurement method and statistical package skills.
- Students have become acquainted with the skills needed to analyze research data.
- Students are able to conduct some basic descriptive and inferential statistics using R.

Description of the course

The Applied Researcher II is the second part of a three period research project, in which students will work in small groups to research a problem. Students continue working on the project that they started in the Applied Researcher I. In the current period the focus will lie on gathering the data needed in order to answer the research question(s) formulated and developing analytical skills using the program R.

Literature

No essential reading list is provided. Students are expected to search for and identify credible and relevant sources by themselves.

Instructional Format

Research mentor meetings with the assigned supervisor, lecture(s), workshop(s)

Assessment

R exam (individual assignment)

Written reflection report (individual assignment)

VSK2002 Lab Skills: Protocol Design

2000 Skills Training

2.5 ECTS, Spring Semester, Period 4

Prerequisites

- ✓ VSK2015 Lab Skills: Good Laboratory Practice

Recommendations

- VSC1401 Introduction to Chemistry

Intended Learning Outcomes

At the end of this course students are able to:

- Analyse a problem, formulate research questions, and generate a hypothesis for a lab experiment.
- Design an experiment to test the hypothesis, select appropriate control groups, write a protocol, and plan the activities to be executed in the lab.
- Incorporate safety protocols, biohazard handling, and ethical considerations in laboratory research.
- Conduct laboratory experiments with precision, accuracy and professionalism demonstrated through use and execution of advanced laboratory techniques.
- Assess and conclude over experiment's results to answer a given research question and outline the conclusion in a scientific report.

Description of the course

This is a skills training that aims to generate scientific curiosity in the student. It focuses on the development of experimental protocols in laboratory settings with the aim to equip students with the necessary skills and knowledge to design, implement, and analyze experiments in various disciplines within the sciences.

This skills training creates an environment that gives the opportunity to formulate your research questions regarding a specific problem to develop a protocol that makes use of different abilities and skills to handle laboratory equipment in a safe and precise manner. Accuracy, focus, and constant questioning will be part of this course to finally obtain solutions to different practical challenges presented during the different sessions.

Literature

Literature will be provided for each task individually. Besides, you will need to look for your own sources according to the research question.

Instructional format

Laboratory sessions.

Assessment

Protocol design assignments, lab journal control, and final report

VSK2003 Lab Skills: Biomolecular Techniques

2000 Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ VSK2015 Lab Skills Good Laboratory Practice or equivalent **OR**
- ✓ VSK2002 Lab Skills Protocol Design

Recommendations

Interest in biology and laboratory experiments

Intended Learning Outcomes

At the end of this course students are able to:

- Perform calculations required in bio-molecular biology.
- Perform proper laboratory skills (use of micro-pipets; balance; photo spectrometer).
- Explain, understand and perform a basic bio-molecular experiment.
- Explain and understand the theoretical background behind DNA-Isolation, Restriction analysis, photo spectrometry and DNA gel electrophoresis.
- Obtain useful data from basic photo spectrometry in various experiments.
- Apply and understand DNA gel electrophoresis and restriction analysis.
- Understand and perform thin layer chromatography (TLC).
- Properly follow the experiments using a laboratory journal.
- Report and reflect on the data obtained from a laboratory experiment.

Description of the course

This skills training focuses on developing students' skills in bio molecular laboratory techniques and associated calculations. Through a combination of theory, hands-on experiments, and data analysis, the course aims to prepare students for conducting research in molecular biology.

By completing this course, students gained the theoretical knowledge and basic bio molecular laboratory skills necessary to conduct molecular biology experiments.

Literature

Practical Skills in Biomolecular Sciences, ISBN-13: 978-0132391153

Instructional format

Laboratorial meetings.

Assessment

- Preparations / labjournal (fail, pass, good)
- 1 short practical report (fail, pass, good)
- Basic laboratorial calculations (40%) and open-ended questions (60%)

VSK2004 Academic Writing

2000 Skills Training

2.5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

During this advanced writing course, students will

- Deepen academic writing skills appropriate for academic exchanges: understanding how to report on approaches, conduct a short literature review (individual) and write a research proposal (individual)
- Learn to use the analysis of the data to support a scientific hypothesis, as well as correct use of grammar and spelling
- Learn relevant paraphrasing and summarizing techniques
- Practise how to cite properly together with how to write proper references
- Give and receive feedback on academic writing.

Description of the course

This course is designed to assist students in polishing their academic writing skills. You will more than likely have already written a number of papers for various courses before attending this course; therefore, this course will not review the very basics of writing or grammar. Rather, this skill's training course will focus on advanced levels of different types of writing to help students look deeper into style while writing in grammatically correct English, and re-visit successful means of argumentation in an academic context.

Literature

Recommended: Fowler, H. R., & Aaron, J. E. (2004). *The Little, Brown Handbook* (9th ed, or higher). New York: PearLongman. Any other course hand-outs or materials will be provided via Student Portal

Instructional format

Tutorial (6) meetings.

Assessment

Paper 1 and 2 each count for 50%

VSK2006 Clinical Lab Skills

2000 Skills Training

2.5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To apply main principles of Good Clinical Practice in clinical research;
- To explain and compare the methodology of the field tests applied in experimental clinical research involving lifestyle interventions
- To interpret the results of basic clinical measurements in the light of their methodology, clinical significance and relevant biological mechanisms
- To develop expertise in design, execution and reporting of experimental human research

Description of the course

VSK2006 Clinical Lab Skills introduces students to the principles of research involving human subjects and provides hands-on experience with several techniques used in nutritional research. During the practical training, you will learn how to perform basic anthropometric measurements in humans, which methods can be used to assess body composition and cardiovascular function, and how to evaluate physical fitness in humans. Furthermore, students will build expertise in the basic interpretation of electrocardiograms, heart rate variability, and spirometry results. During the educational workshops, the GCP principles, including the informed consent process, will be applied in the context of experimental research projects. Overall, by completion of this training the students will strengthen their skills to perform clinical research.

Literature

A combination of basic books and E-reader will be used. Moreover, the students will have to search and select the articles themselves.

Instructional format

Educational workshops with practical trainings

Assessment

Clinical lab journal, which includes home preparations, practical reports and reflections

VSK2007 Risk Communication & Crisis Management

2000 Skills Training

2.5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

During this skills training, students will learn to approach risk communication from different disciplines:

- risk assessment
- risk psychology
- sociology

Also to practice risk communication taken into account personal and social perception and acceptance and background, different opinions about risk issues.

Description of the course

Most scientific research about risk is based on the likelihood that something will happen and the impact what this will have: on humans, animals, the environment or climate for example. Think of a foodborne illness, the development of AI-robots that are smarter than ourselves, or the plastic soup in our oceans. But risk = chance x effect is not the whole message. Risks are rooted in society and are therefore closely connected with the life and especially the values and perceptions of the society-members, on which they base their risk-acceptance.

Scientific risk assessment can be perceived as an equivalent of 'fake' messages about risk issues on the internet or social media. Who can be trusted and who absolutely not, who can do what to take control of the risk. These are all elements of the course 'the strategy of risk communication'. Students will learn about the six building blocks of the strategy, which are rooted in behavioural economics, sociology, risk-ontology and psychology. Together they give insight in that a risk is more than probability/severity, knowledge that is necessary to connect the scientific outcomes to the society you are working for.

Literature

TBA

Instructional format

Six meetings: 30 minutes theoretical considerations and background, exercise training based on actual cases.

Total duration each week: two hours.

Assessment

Development of a risk communication strategy based on two actual cases

VSK2008 Visualization and Data Storytelling

2000 Skills Training

2.5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- Students understand what is meant by data storytelling.
- Students have become acquainted with differences visualization methods/techniques that are used in data storytelling.
- Students have learned to think critically about how to combine data, visuals and narrative into an effective visual representation.
- Students have learned how to develop an infographic.

Description of the course

Google's Chief Economist Dr. Hal R. Varian stated in 2009 "the ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it—that's going to be a hugely important skill in the next decades." This course will focus on the last steps in this process, namely how to give numbers a clear and convincing visual voice; how to share understanding visually. Visuals are processed 60,000 times faster than words alone and remembered by 80% of the people (contrary to 20% for reading). Data storytelling is a structured approach for communicating data insights, and it involves a combination of three key elements: data, visuals, and narrative. In this skills training students will get an introduction into how one combines the right visuals and narrative with the right data, as this drives change in real life. People hear statistics, but they feel stories. Great data storytelling allows someone who's never heard of data science to understand what information one wants to transmit.

Literature

- Storytelling with data: a data visualization guide for business professionals, Cole Knaflig, Wiley, 2015, Hoboken, New Jersey, ISBN:1119002257
- The Visual Display of Quantitative Information, Edward R. Tufte, Graphics Press, 2001, Cheshire, Conn, ISBN:9780961392147
- Tamara Munzner: Visualization Analysis & Design, CRC Press, Boca Raton USA, 2014

The required books for this course can be found in the Campus Venlo Library and via Keylinks Learning Resources.

Alternative resources may be found via the University Library: <http://library.maastrichtuniversity.nl/>

Instructional format

Lectures and Hands on Sessions

Assessment

Develop a Data Story and write a report + weekly case assignments

VSK2009 Leadership Skills

2000 Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of the skills training, students...

- can distinguish different leadership styles and reflect on their own style of leadership;
- have recognized the interrelationship between organizational culture and leadership and reflect upon their own leadership behaviour in groups;
- have identified their core qualities and reflected upon how these influence their communication as a leader;
- can execute effective verbal and non-verbal active listening skills and reflect on how their ability to listen affects their leadership skills;
- can differentiate between conflict styles and have discovered their personally preferred conflict style with its advantages and pitfalls;
- can reflect on ethical leadership and appraise the value of authenticity and charisma for ethical leadership behaviour.

Description of the course

The idea that leadership is an innate quality that is possessed only by a few people in the world, is not considered valid anymore. In truth, leadership can be studied and learnt through discussion, exercises and being open to different opinions. In which situations is what type of leadership required? How are group dynamics influencing leadership? What skills are necessary for a leader? And what about your personal skills: which skills do you want to (further) develop and what aspects suit you less? Which leadership style is most effective for you? This skills training is aimed to inspire you and further develop your personal leadership skills and is relevant for students at any level of leadership skills development.

Literature

Materials available on Student Portal.

Instructional Format

Interactive Workshops and Educational Games; Self Reflection; Peer Feedback

Assessment

- 80% of grade: weekly assignments in portfolio
- 20% of grade: final assignment in portfolio

VSK2010 Creativity & Concept Development of New Business

2000 Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ None

Recommendations

VSS2301 Entrepreneurship

Intended Learning Outcomes

- To be able to apply creativity techniques to problem solving
- To understand how creativity can be used to transform technology into product concepts.
- To be able to draft business concepts and business models that result from technology product ideation.

Description of the course

A key role of corporate R&D-labs is to translate novel technology into new products and new business. Customer feedback may also trigger product and business development. Envisioning how novel technology can be used to develop and market new products is an inherently creative process that should not only be mastered by business developers, but also by scientists and technologists.

This course is focused on developing your competence at two important tasks for the creation of new business: [1] discovering (technological) opportunities, [2] developing product, business concepts and business models.

Creativity plays an important role in several, if not all, aspects of what makes organisations work and flourish. Creative problem solving is therefore an essential skill for those that expect to find employment as scientists in industry and academia. It is also valuable to those that eventually may become corporate or self-employed entrepreneurs.

During this skills course we will touch upon important aspects of creative problem solving. But, most of all, we will provide you with insights that will help you to develop your own creative skills. The starting point of the training is our belief that creativity is an ability that, to a certain extent, can be learned and trained. We will follow different paths to help you investigate your own creativity skills and to find the best way to improve them.

Literature

- Reader with papers & cases

Instructional Format

Workshops

Assessment

1. A midterm assessment, which consists of an evaluation of a Keynote/PowerPoint presentation of ideation outcomes;
2. A final individual assessment, which consists of a combined project & reflection paper

VSK2011 Influencing and Negotiation Skills

2000 Skills Training

2.5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To develop effective negotiation skills to achieve integrative, 'win-win' outcomes
- To identify negotiation strategies and learn how and when to apply them
- To navigate diverse and challenging personalities, communication styles, and differences in bargaining power

Description of the course

This course is aimed at developing analytic and communication skills that are necessary for successful negotiations. Students will learn different negotiation styles and models, and will use these to develop skills across three stages of negotiation: preparation, negotiation, and evaluation. The course will encourage students to approach conflicts and disagreements as possible win-win rather than zero-sum scenarios, and students will learn specific techniques in pursuit of this goal. For instance, students will develop skills to best prepare for negotiations, facilitate negotiation processes, bargain with difficult partners, and manage cross-cultural elements of conflicts.

Literature

- Fisher, Roger, William Ury and Bruce Patton. 2012 (1999). *Getting to Yes: Negotiating Agreement Without Giving In*. Random House Business.
- Diamond, Stuart. 2018 *Getting More: How You Can Negotiate to Succeed in Work and Life*. Currency.
- Voss, Chris and Tahl Raz. 2016. *Never Split the Difference: Negotiating as If Your Life Depends on It*. Harperbusiness.

Instructional Format

Weekly meetings involving negotiation simulations

Assessment

Two reflection papers regarding simulations

Oral exam: final negotiation simulation performance

VSK2012 Integrated Sustainability Assessment of Climate Change

2000 Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

✓ None

Recommendations

VSC2501 Climate Change

Intended Learning Outcomes

- Understand climate and climate impacts models;
- Understand how these models are used to estimate future changes;
- Be able to design your own (conceptual) climate impact model;
- Understand the concept of Integrated Sustainability Assessment (ISA);
- Understand how various ISA tools and methods are used;
- Get hands-on experience in using several ISA tools (e.g. models, scenarios, games).

Description of the course

An interdisciplinary study skill in Integrated Sustainability Assessment methodologies and concepts as an approach to address complex societal issues associated with the challenge of sustainable development, climate change in particular.

Integrated Assessment is an iterative, continuing process, where integrated insights from the scientific and stakeholder communities are communicated to the decision-making community, and experiences and learning effects from decision-makers form one input for scientific and social assessment. Multiple diverse approaches are needed, varying from analytical methods (such as Integrated Assessment Models) to participatory methods (such as focus groups). Global warming is perceived as one of the biggest global health risks of the twenty-first century which could have a range of effects. In this skills course, we will use climate change as an example to demonstrate various ISA methods and tools.

Theory is mixed with practice through lectures, discussions, ISA sessions and games.

Literature

All material (problem descriptions and supporting literature) will be provided during the course and made available through Canvas. There is no specific textbook.

Instructional Format

Presentations, computer-based group practicals, interactive sessions, research-based learning.

Assessment

Graded IA exercises.

VSK2013 Nutritional Assessment

2000 Skills Training

2.5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To introduce students to the basic principles and techniques of measurement of dietary intake of various nutrients
- To learn how to assess energy balance in human subjects
- To understand the value of anthropometric measurements and clinical assessment in health risk assessment
- To introduce students to holistic assessment of the nutritional status and principles of dietary advising

Description of the course

In this skill training, you will learn how to measure intake of nutrients, how to evaluate nutritional status and assess energy expenditures in human subjects. During the practical sessions you will be introduced to the principles of assessment of the dietary intake of macro- and micronutrients by means of food diaries and dietary recall method, learn how to evaluate body composition and how to estimate the level of physical activity. Moreover, principles of dietary advising as well as the possibilities of nutritional coaching offered by the modern mobile applications will be discussed. This skills training is relevant for students interested in nutrition, dietetics and lifestyle coaching.

Literature

There is no mandatory literature for this course. Guidance will be provided per each task and the textbooks that can be found to be useful include:

- Raymond, J. L., & Morrow, K. (2023). Krause and Mahan's food and the nutrition care process (16th edition).
- Lee, R. D.; Nieman, D. C. Nutritional Assessment, 6th ed.; McGraw-Hill: New York, NY, 2013.
- Willett, W. (2013). Nutritional epidemiology (Third edition). Oxford University Press.
- Nieman, D. C. (2019). Nutritional Assessment (Seventh Edition). New York, NY. McGraw-Hill Education.

Instructional Format

Lecture, discussions, tutoring and practicals.

Assessment

Assignments and a final presentation.

VSK2014 Motivational Interviewing

2000 Skills Training

2.5 ECTS, Spring Semester, Period 4

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

By the end of this course, students will

- Understand the underlying theory of motivational interviewing and explain how the different techniques of motivational interviewing resulted from that;
- Connect and apply motivational interviewing techniques to real life cases;
- Reflect on conducted interviews in which clear good points and points for improvement can be formulated that lead to improving the conversation technique.

Description of the course

This course introduces students to motivational interviewing, a guiding style conversation method that can support behaviour change. Motivational interviewing is widely used in healthcare, counselling and coaching to help individual explore their motivations for behaviour change.

Students will learn the theoretical foundations of motivational interviewing and be introduced to the key concepts and core communication techniques open questions, affirmations, reflective listening and summarising. Through interactive exercises and role play, students will apply the theory to practice. The course will end with a practice interview with an experienced professional.

Literature

Materials available on Canvas

Instructional format

Lectures & workshops

Assessment

Conducted interviews, reflections

VSK2015 Lab Skills: Good Laboratory Practice

2000 (Life) Science Skills Training

2.5 ECTS, Fall Semester, Period 1

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this course students are able to:

- Understand the origins and importance of Good Laboratory Practice, as well as its key elements and requirements.
- Use laboratory equipment and materials to conduct basic laboratory experiments with care, precision, and efficiency.
- Document activities performed in the lab, such as followed procedures, planning, and raw data records.
- Assess the experimental results and formulate coherent discussions and conclusions.
- Assess and conclude over experiment's results to answer a given research question and outline the conclusion in a scientific report.

Description of the course

This skills training is designed to provide students with an overview of Good Laboratory Practice (GLP), a set of principles and guidelines that ensure the quality, integrity, and reliability of non-clinical laboratory studies. You will learn to adhere to standardized protocols and best practices to minimize bias, error, or fraud in laboratory research and testing by making proper and efficient handling of apparatuses, instruments, and materials in the laboratory.

By successfully completing this course, you will be well-equipped to work in a laboratory research setting. This skillset will ensure the credibility and reliability of scientific research results while promoting transparency and accountability.

Literature

Literature will be provided for each task individually. Besides, you will need to look for your own sources according to the research question.

Instructional format

Laboratory sessions.

Assessment

Prelab preparation, lab journal and practical reports

VSK2016 Advanced Logic

2000 Skills Training

2.5 ECTS, Fall Semester, Period 1

Prerequisites

Students who take the course need to have written at least one academic paper.

Recommendations

It is highly recommended that students have taken VCO1005 Information Literacy prior to this course.

Intended Learning Outcomes

- Understand and apply symbolic notations for arguments and statements;
- Understand the logical operations for conjunction, negation, and disjunction;
- Learn how to construct and interpret truth tables

Description of the course

This course aims to develop students' understanding of logic and argumentation by building on elements of argumentation introduced in the core course 'Information Literacy'. The goal for the course is to familiarize students with a more formal approach to logic, and use this language of logic to both decode existing arguments as well as build new arguments.

Literature

E-reader with various articles and chapters on argument analysis and logic.

Instructional Format

Assignment-based discussion, supplemented by lectures.

Assessment

A midterm assignment where students will analyze one of their own previous papers;

A final assignment where students will construct an argument

VSK2017 Advanced Qualitative Research

2000 Skills Training

2,5 ECTS, TBA

Course offered as of academic year 2027-2028

Prerequisites

✓ None

Recommendations

None

Objectives

By the end of this course, students will

- Understand the theoretical foundations of qualitative research and use this to set up a qualitative study;
- Recognise and explain different qualitative research methods for data collection for different purposes;
- Develop theory-based interview guides;
- Prepare qualitative research based on a given case and execute different data collection methods;
- Reflection on the challenges in qualitative research as well as your personal bias in setting-up, executing, analysing and reporting qualitative research (reflexivity).

Description of the course

In this course, students learn the principles and practice of qualitative research, its data collection methods and data analysis approaches. Qualitative research is used to explore how people experience, interpret and give meaning to social phenomena. Through the workshops and activities in this course, students will experience the qualitative approaches to investigate complex questions.

Students will become familiar with key qualitative research designs, such as interviews, focus groups, observations and document analysis. Following the important concepts of qualitative research students, such as research ethics and sampling strategies, students will collect data and learn how to analyse them. By critically reflecting on the experiences, student will understand their own strengths and pitfalls when executing qualitative research.

Literature

Materials available on Canvas

Instructional format

Lectures & workshops

Assessment

Data collection preparation, conducted interviews, data analysis reflection

VSK3004 Science Communication I

3000 Skills Training

2.5 ECTS, Spring Semester, Period 5

Prerequisites

- ✓ Done at least one presentation and have written a paper in a prior course

Recommendations

None

Intended Learning Outcomes

After this course, students will be able to:

- Structure and deliver a clear, concise, and persuasive academic message through visual and oral presentation skills.
- explore different science communication types to engage the audience and make their message stick.
- translate academic knowledge to a format that is understandable for laymen.
- Create a science communication proposal using appropriate theories of science communication and a strategic rationale on the relevance of the academic subject of the event.
- Plan the practical requirements and evaluation methods for different science communication events (e.g. podcast, documentary, panel discussion).

Description of the course

Every scientist will have to deal with it more than once in their career: communicating science. As a scientist, you will need to go to a conference, write press releases about big projects and participate in societal science events. All these different communication types require different approaches. An understanding of the differences and practice in the different approaches is crucial in order for a scientist to have an impact.

In this course, you will practice different science communication techniques. You will build your own science communication portfolio so you can make your personal science communication strategy. We will address formal academic conference presentations, as well as writing popular sciences blogs. You will learn how to use your brain, your heart and your gut for communication science!

Literature

A literature list will be provided on Canvas. Additional material needs to be retrieved by students themselves.

Instructional format

Lectures and workshops

Assessment

Academic presentation (35%)

Blog (35%)

Strategy for science communication (30%)

VSK3005 Food Product Development

3000 (Life) Science Skills Training

2.5 ECTS, Spring Semester, Period 5

Prerequisites

✓ None

Recommendations

VSC3203 Food Innovation

VSC2208 Sensory Science

VSC2203 Food Technology and Processing

VSC3202 Consumer Behaviour

Intended Learning Outcomes

At the end of this course students are able to:

- Identify key factors influencing the development, production, and commercialization of food products.
- Identify and analyze consumer preferences, as well as stay up-to-date with industry trends.
- Design food formulations using appropriate ingredient selection, processing techniques, and preservation methods.
- Optimize new product designs and/or improve existing offerings by implementing diverse product development techniques.

Description of the course

In this skills training course you will develop and exercise abilities to create new, innovative food products through a comprehensive understanding of ingredient selection, formulation design, processing technologies, and sensory evaluation. During this intensive course you learn to develop a food product from the raw ingredients to the final packaging.

You will develop a strong foundation in the skills and knowledge required to create innovative, consumer-driven food products that meet market demands and regulatory requirements.

Literature

Literature list will be published on Canvas.

Instructional format

Lectures, workshops and tutorial group meetings.

Assessment

Weekly assignments to culminate in a final food product brochure.

VSK3000 Portfolio

3000 Core Skills Training

2.5 ECTS, Fall Semester, Period 2

Prerequisites

- ✓ Minimum 5th semester of UCV

Recommendations

Start Capstone in the next semester

Intended Learning Outcomes

At the end of this skills training students should be able to:

- Explain their curriculum through a coherent narrative that reflects their academic expertise, skills and ambitions
- Plan, execute and reflect on a personal and professional development plan that supports learning and building their academic identity

Description of the course

Throughout your studies, you will make many decisions about your curriculum. While these choices will ultimately lead to your diploma, they more importantly contribute to the development of your academic identity. This portfolio course is designed to support you in that process. It provides a structured space to reflect on your choices, connect your experiences, and better understand who you are becoming as a future professional.

Through a series of activities, you will collect and organise your course registration information and reflect on your learning journey by writing a yearly curriculum narrative. These reflections will help you identify patterns in your interests, strengths, and goals, allowing you to gradually construct a coherent academic identity.

In addition, open workshops and career orientation activities will support you in exploring opportunities beyond UCV. These sessions will be your personal and professional development plan, encouraging you to think critically about your future path. By the end of the course, you will have a well-documented and reflective portfolio that not only captures your academic journey but also prepares you for the next step after UCV.

Literature

None

Instructional format

Reflections throughout your studies, office hours.

Assessment

Assessment in 1st year, 2nd year, 3rd year. Assessment of open element in submission period

Projects

VPR1002 The Applied Researcher III

1000 Core Project

5 ECTS, Spring Semester, Period 6

Prerequisites

- ✓ VSK1000 The Applied Researcher I; VSK1004 The Applied Researcher II

Recommendations

None

Intended Learning Outcomes

At the end of this project...

- Students have developed a basic ability to analyze collected research data and synthesize the results with the acquired content knowledge in order to draw reliable conclusions.
- Students have become aware of what constitutes an academic research article
- Students have further developed abilities needed to successfully complete a research project (analyzing own data, writing and evaluating own research).
- Students have gained experience in critically analysing a research study
- Students have become acquainted with presenting their research in a conference and answering critical questions.

Description of the course

The Applied Researcher III is the third and last part of a three-period lasting research project, in which students will work in small groups to conduct research. Students continue working on the project that they started in the Applied Researcher I.

In this period the focus will lie on analyzing and interpreting the collected data after acquiring additional analytical skills in R and communicating the findings of the research project in a written research article that is of sufficient quality to be submitted to a journal. Students will also prepare and defend their research project in a poster presentation conference.

Literature

No essential reading list is provided. Students are expected to search for and identify credible and relevant sources by themselves.

Instructional Format

Research mentor meetings with the assigned supervisor, lecture(s), workshop(s)

Assessment

R exam (individual assignment)

Written research article (group assignment)

Research poster presentation (group assignment; pass/fail).

VPR1006 Food in Transition: An Interdisciplinary Systems Perspective

1000 Core Project

5 ECTS, Fall Semester, Period 3

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

At the end of this project students should be able to:

- Explain basic systems-thinking concepts such as boundaries, components and feedback loops.
- Construct and interpret a simple conceptual model of a food-system challenge.
- Identify interactions between behavioural, biological and institutional factors.
- Reflect on assumptions, strengths and limitations of simplified system representations.

Description of the course

In this introductory project, students learn to analyse sustainability challenges using principles of systems thinking. Sustainable food systems are complex as they include different processes and actors and range all the way from primary food production to consumption and food waste management. Food systems are characterized by their interdisciplinary, interconnected and dynamic relationships although many studies still focus on simple cause-and-effect relationships.

In this project, we will explore sustainable food systems through conceptual models of interacting behavioural, biological and institutional components and explore feedbacks and unintended consequences within food systems. Starting from the systems thinking theory, you will read about applied systems thinking in the food and sustainability. This all with the goal of analysing a sustainability and food system problem that would require a systems approach to explain or understand it.

Through workshops and small group discussions, you will learn the fundamental concepts needed to apply systems thinking to a food systems subject of your choice. In this assignment, you will encompass the behavioural, health and responsible innovation lenses relevant to your subject or problem.

Literature

None

Instructional Format

Workshops, lectures and PBL's

Assessment

Reflections, presentation and final poster

VPR2001 Writing a Research Proposal

2000 Project

5 ECTS, Fall Semester, Period 3

Prerequisites

- ✓ VSK2004 Academic writing

Recommendations

VCO1005 Information Literacy

VSK2016 Advanced Logic

Intended Learning Outcomes

At the end of this project:

1. Students will be aware of the importance of analysing a real-life problem sufficiently in order to formulate an adequate research question and hypotheses in the context of an academic grant proposal;
2. Students will have practiced presenting their research focus and answering critical questions, both in writing and verbally;
3. Students will have developed abilities needed to successfully complete a research proposal (planning, writing, evaluating, presenting);
4. Students will have improved relevant soft skills (planning, communication, as well as providing and processing peer feedback).

Description of the course

You will learn to write a professional research proposal.

In the project context of applying for a research grant, the focus will lie on the process steps of writing a research proposal, and communicating a clear research focus, both in writing, as well as via a short personal proposal presentation (pitch).

Each session will focus on the conventions and requirements for writing a specific section of the proposal, along with guidelines on the effective use of academic English in writing a research proposal.

The outcome will be a research proposal that could be submitted to an external Grants office, such as the UM Universiteitsfonds.

Literature

No essential reading list is provided. Depending on their topic of choice, students are expected to search for and identify credible and relevant sources by themselves, and arrive at a short list of required reading. Nevertheless, the following are recommended:

- Fowler, H. R., & Aaron, J. E. (2004). The Little, Brown Handbook (9th ed, or higher). New York: PearLongman.
- Kumar R. Research Methodology – a step-by-step guide for beginners. ISBN9781446269978

Instructional Format

In In this project 2 instructional formats are used.

1. A total of 9 mentor/group meetings, in which a group discusses their research progress, questions etc. with their research mentor
2. 1 Final proposal presentation Workshop

Assessment

Written research proposal (as individual assignment; 80 %) and

Final presentation (pitch, as individual assignment; 20 %) on the last day of the project

VPR2002 Academic Debate

2000 Project

5 ECTS, Fall Semester, Period 3

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

- To equip students with essential debating and communication skills.
- To introduce students to the practice of speaking in a public setting.
- To practice argumentation skills.
- To gain expertise on a topic of choice (the debate topic).

Description of the course

Debating skills are an important component of academic life. In this 2000 level-project, students will prepare, present and defend a position for an academic debate. The debate topics will be centered around the issues that emerge out of a wide range of UCV courses from different concentrations taught during the academic year. There will be a “yes” (pro) and a “no” (con) team, which will build their argumentation strategy and prepare to refute arguments of the opponents throughout the project in order to win a debate. The emphasis lies on delivery and content. It is not only important to think about what you deliver, but also about how you deliver it. In the end, it will be your job to persuade an audience as to the correctness of your position. In order to do this, you need a coherently structured, logically laid out set of arguments that you will present in a clear and self-assured way. Your task is to make the issue involved come alive.

Literature

Students will choose, read and use literature that is related to their debate topic. Some of the literature will be suggested by the tutor; however, most literature has to be found by the students themselves.

Instructional Format

Tutorial group meetings, a lecture/workshop on debate and debating skills, workshops on argumentation, open debate.

Assessment

A position paper (individual grade) and a debate (group grade).

VPR2004 Strategic Marketing and Practice

2000 Project

5 ECTS, Spring Semester, Period 6

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

During the course, you will learn:

- How to devise companies' goals and the accompanying strategy to achieve those goals, taking into account the market situation (e.g., customers, competitors, market forces)
- How to divide a market into segments, and selecting relevant segments for targeting
- How to position a firm's offering, a product or service, taking into account customer needs and behavior
- How to build long-term relationships with customers
- How to develop an offering, using the marketing mix instruments available
- How to incorporate information from market research into the decisions surrounding the above issues
- To communicate your ideas efficiently and effectively
- To work in international teams

Description of the course

In an increasingly dynamic environment companies require a capacity to continuously learn about and swiftly respond to markets. Fundamental to this is the customer perspective, the recognition that company success comes from delivering superior customer value. Marketing traditionally has advocated the customer focus; yet, today, marketing needs to take on a more strategic, coordinative role within the firm to craft more interactive strategies when it comes to consumers and partners. Thus, it is imperative for both marketing and non-marketing specialists to grasp how marketing helps the firm design strategies starting from the customer.

The course Strategic Marketing and Practice focuses on designing strategies from the market back to create, deliver, and sustain customer value in competitive and dynamic markets. To do so, this course deals with a comprehensive investigation and analysis of all major components of marketing strategy and their integration. This course takes a business-oriented setup by focusing on real life examples/cases and by allowing students to participate in a market simulation game. The objective of the simulation is to put into practice the concepts related to marketing strategy and the marketing mix in a risk-free environment.

Literature

Palmatier, R. W., & Sridhar, S. (2017, or 2nd edition from 2021). Marketing strategy: Based on first principles and data analytics. Macmillan International Higher Education. + academic articles

Instructional Format

Tutorial group meetings, participation in market simulation game

Assessment

Group report, individual report

VPR3002 Think Tank

3000 Project

5 ECTS, Spring Semester, Period 6

Prerequisites

One of the following modules: VSK2016 Advanced Logic; VPR2002 Academic Debate; VSC1303 Introduction to Statistical Methods and Data Analysis (or VSC2305 Intermediate Statistical Methods and Data Analysis); VSC2204 Public Health Policy Making.

Recommendations

The coordinators would like to emphasize that Think Tank is a time-consuming project with a high workload, which requires highly motivated students. Students should have a broad interest in e.g. policy development and research and analysis. Due to the specific nature of the project and the fact that group work is an essential element, students should take into account that they need to be available during entire weekdays throughout the entire project.

Participating in Think Tank as part of the regular workload at UCV is doable but demanding. Therefore, having a higher workload due to e.g. additional or parallel projects is not allowed.

Intended Learning Outcomes

By the end of this course, students will:

- collaboratively execute a thorough problem analysis based on the assignment given by an external client, i.e. to develop skills concerning critical analysis, including the analysis of a problem, conceptualizing a problem as a case study (the ability to see the particular problem within a wider context), and to generate new knowledge relevant to the case at hand (Boyer's 'discovery' and 'integration')
- Be able to set up research based that leads to completing the assignment that was given to them and their analysis of the problem, i.e. to develop skills concerning organization of work, and collaboration in a team (not specifically related to Boyer, yet instrumental towards all four aspects at the level of collaborative learning);
- Create recommendations for the client and related to the assignment that was given to them, i.e. skills related to formulating finding and recommendations in a comprehensive yet concise manner ('application' and 'teaching')
- present the problem analysis, their research and its outcomes and their recommendations in an understandable manner to a group of (non-academic) representatives or experts.

Description of the course

Students will be assigned to writing and presenting a (policy) recommendation that is partly based on the knowledge and expertise they have developed as a result of their educational programme at UCV. Students will form a 'think tank' and write and present an extensive and elaborate (policy) recommendation for a client, i.e. a company or organization. A creative and critical analysis of the problem at hand will lead to the application of knowledge and skills acquired at UCV through previous course work, and new insights developed during the project.

The first week of Think Tank will focus on a problem analysis and an analysis of the knowledge and expertise of the members of the think tank. The second week will focus on doing research and start with discussing and formulating solutions. During the final week, students will present their report to an audience of experts and share their recommendations with the client.

Besides having meetings with their fellow students and a tutor, the group might meet with guest experts (either invited by the coordinators or by the students themselves) and undertake self-organized field trips

and external visits to obtain the required information. Depending on their academic background and skills, students will divide the workload and take on specific roles within the Think Tank.

Literature

Students search for their own literature depending on the demands of the assignment.

Instructional Format

Students will meet with their group on a daily basis by means of tutorial group meetings, external visits and workshops.

Assessment

Problem analysis (group assignment), individual research memo, final group report and a final presentation of the report (group assignment).

VPR3003 Science Communication II

3000 Project

5 ECTS, Spring Semester, Period 6

Prerequisites

- ✓ VSK3004 Science Communication I

Recommendations

None

Intended Learning Outcomes

After this course, students will be able to:

- Apply theoretical knowledge to the practical application of science communication.
- Differentiate between different science communication outlets and to select the most appropriate outlet for their intended audience and message.
- Create a science communication activity for a laymen's public.
- Use the necessary organizational and communication skills for reaching the experts and the public.
- Critically assess the success of their science communication activities and identify areas for improvement.

Description of the course

This course focuses on developing students' ability to effectively communicate scientific concepts and research findings to diverse audiences. By integrating theoretical knowledge with practical application, the course aims to equip students with the skills necessary to engage both experts and laypeople in scientific discussions.

Students will develop the skills and knowledge crucial for developing public understanding of science and promoting evidence-based decision-making in society.

Literature

A literature list will be provided on Canvas. Additional materials need to be retrieved by students themselves.

Instructional Format

Lectures and workshops

Assessment

Science communication activity (60%)

Science-based strategy for science communication activity including marketing, evaluation, and reflection (40%)

VPR3004 Project Management

3000 Project

5 ECTS, Fall Semester, Period 3

Prerequisites

✓ None

Recommendations

None

Intended Learning Outcomes

Description of the course

The importance of project management nowadays cannot be overstated. Introducing an innovative product in the market, organising a music festival or developing a new software tool... these are all complex, interdisciplinary and time-constrained activities that can easily go off tracks and struggle with out of control budgets. Good project management helps teams to deliver on time and within budget, improves internal communication as well as communication with the stakeholders outside of the team and leads to better business decisions. Due to decreased time-to-market and the tendency towards flatter and leaner organisations, good project management skills have become increasingly important. In this course you will learn the essentials of project management and apply them in your own project. You will experience how it is to operate in a real project, monitor quality, time and money goals and deliver results.

Literature

TBA

Instructional Format

TBA

Assessment

TBA

VCA3000 Capstone

3000 Core Project

20 ECTS, Fall Semester

20 ECTS, Spring Semester

Prerequisites

Students should have at least 140 ECTS at the start of Capstone.

Recommendations

Participating in Capstone is doable, but demanding. Therefore, having a higher workload than usual (30 ECTS for one semester) due to e.g. additional courses, skills trainings and projects is not recommended.

Intended Learning Outcomes

- To enable students to express their individual academic profile through a scholarly project during their last semester at the College.
- To further develop the ability to give an independent, systematic and clear treatment of a certain topic.
- To train the ability to independently identify and analyse relevant literature, theories and knowledge.
- To make systematic use of an appropriate selection of theories and methodologies in approaching questions and problems.
- To train the ability to independently acquire and handle academic knowledge through independent studies of relevant literature, and to cultivate the ability to critically evaluate and briefly account for the central elements in a large literature base.
- To assist senior students in the transition from undergraduate education to a master programme or the labour market.

Description of the course

The word capstone refers to a wedged stone connecting two sides of a curved stone bridge. Your capstone serves as a connection between the various important themes in your curriculum that you have followed at UCV. Capstone is the culmination of a student's academic work at UCV and is comparable in function to a bachelor thesis.

During this module students will work on writing a proposal in which they formulate their individual goals and determine a topic and format appropriate to their topic; students will independently search for a capstone/ research advisor; students will conduct the research primarily themselves; and their findings are going to be presented in a final piece of work (capstone). The capstone can take on a variety of forms and is not confined to a traditional research article/paper.

Literature

There is no preassigned literature for Capstone. Students will search for their own literature based on their capstone topic.

Instructional format

Individual work, tutorial group meetings/workshops, guidance from Capstone advisor and support hours.

Assessment

Students will be assessed pass/fail on an idea, topic substantiation and a presentation. Their final grade is based on two assessments, a proposal and the final Capstone. Oral defense of the final Capstone can be expected.

Courses at University College Maastricht & Maastricht Science Programme

It is possible for UCV students that already have obtained a positive Binding Study Advice to take courses at University College Maastricht and the Maastricht Science Programme, provided they meet the prerequisites of those courses.

The UCM and MSP courses listed in this appendix are considered internal courses for purposes of graduation, meaning that they do not count towards the 60 ECT maximum for external education and that they do not have to be at the 3000-level. Students must register for these courses through the request form 'Courses elsewhere > Internal courses at UCM/MSP' on the Campus Venlo intranet request form page. The request will automatically be forwarded to the UCM/MSP Office of Student Affairs, where the course will be booked and made visible in the Student Portal two weeks prior to the start of the education. However, UCV cannot guarantee that there is no clash of schedules between these courses and the courses offered at UCV. These courses are not available to exchange students.

UCM and MSP courses not listed in the appendix, are considered external education and have to be requested via the request form 'Courses elsewhere > External courses at UM' on the Campus Venlo intranet request form page and via the 'special course approval' booking module in the Student Portal.

Please indicate backup courses on the course registration form.

Important note

UCM/MSP courses (may) also have prerequisites. MSP courses listed at least have VSC1101 Introduction to Biology as a pre-requisite and may have additional ones. To ensure that you meet all prerequisites, it is important you discuss the compatibility of your followed curriculum to the desired prerequisites with your academic adviser prior to registering for UCM/MSP courses. You may need to ask for a prerequisite waiver. Please note that this prerequisite waiver needs to be submitted to UCM/MSP before the course registration deadline, so start in time.

In all cases, the registration of these courses should occur only after a sound curriculum planning form has been created in agreement with the academic adviser. Your academic adviser will be able to help you figure out whether your course selection is feasible from a scheduling point of view.

More information

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UCM Office of Academic Advising

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MSP Office of Academic Advising

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Modules available at UCM

Courses

Course Code	Course Title	Period
HUM1007	Introduction to Philosophy	1
HUM2046	Science and Technology Studies 1: Living in a Technological Culture	1
HUM3036	Narrative Media	1
SCI1010	Basic Mathematical Tools	1
SCI2011	Introduction to Programming	1
SCI2022	Genetics and Evolution	1
SCI2042	Infectious Diseases, Epidemiology and Global Public Health	1
SCI3003	Optimization	1
SCI3007	Endocrinology	1
SSC1007	Introduction to Law and Legal Reasoning	1 or 4
SSC1029	Sociological perspectives	1
SSC3006	The Social Study of Environmental Problems: Between Nature, Society and Politics	1
SSC2025	Memory	1
SSC2046	Globalization and Inequality: Perspectives on Development	1
SSC2063	The Psychology of Individual Differences: Personality and Intelligence	1
SSC3030	The Law of the European Institutions	1
HUM1013	The Idea of Europe: The Intellectual History of Europe	2
HUM2009	Bullshit! Understanding Anti-Intellectualism	2
HUM3049	Science and Technology Studies 2: Science, Power and Construction of Facts	2
SCI1005	The Digital Enterprise	2
SCI2018	Calculus	2
SCI2034	Functional Neuroanatomy	2
SCI2036	Artificial Intelligence	2
SSC3004	Innovation and Transformative Technologies: The Case of AI - Shaping Industries, Economies, and Societies	2
HUM1003	Introduction to Cultural Studies: Doing Cultural Studies	4
HUM2018	Cultural Diversity in a Globalizing World	4
HUM3051	Medical Humanities: Bodies & Minds, Histories of the Normal and the Pathological	4
SCI2017	Fundamentals of Organic Chemistry	4
SCI2031	Immunology	4
SCI2033	Machine Learning and Data Mining	4
SCI2037	Cell Biology	4
SSC2006	Developmental Psychology	4
SSC2018	Brand Management and How to Communicate About Brands	4
SSC2062	Foundations of Cognitive Psychology	4
SSC3011	Public Policy Evaluation	4
SCI2019	Linear Algebra	5
SCI3046	Cognitive Neuroscience	5
SCI3049	Applied Immunology and Oncology	5
SCI3051	Data Analytics	5

SCI3052	Global Health: Impact of Flows of People, Goods, Knowledge and Technologies on Health and Disease	5
SSC2004	Clinical Psychology	5
SSC2024	International Law	5
SSC2027	Law and Society	5
SSC2050	Psychology and Law	5
SSC3003	The Law of the United Nations	5
SSC3056	Innovation Systems, Policy and Sustainability Transitions	5

Skills Training

Code	Title	Period
SKI2088	Lab Skills: Genetics & Oncology	1
SKI2086	Lab Skills: Biochemistry	2
SKI2091	Bullshit! Identifying Anti-Intellectualism	2
SKI2077	Lab Skills: Cell Biology	4
SKI2048	Introduction to Discourse Analysis	5
SKI2079	Lab Skills: Human Anatomy and Histology	5

Projects

Code	Titel	Periode
PRO3027	Bullshit! Debunking Anti-Intellectualism	3
PRO2011	Deep Reading	3
PRO2013	Design Thinking	3
PRO3005	Public Policy Evaluation & Analysis	6
PRO3013	Science Research Project: Data Science	6

Modules at MSP

Courses

Code	Title	Period
NEU2005	Systems Neuroscience	1
INT3007	Systems Biology	2
BIO2005	Evolutionary Biology	4
BIO3010	Genomics & proteomics	4
BIO2002	Ecology	5