

Course Descriptions for 4EU+ Modules in Geography

Fall 2023

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1. Copenhagen University

Module 1: Human Geography and Geoinformatics (Block 1)

This module contains courses addressing human geography in a broad sense, including topics such as development, economic, and social geography, as well as human-environment interactions and land use change. In addition, there is a GIS component for application of GIS to human geographical analysis. The focus is Global, but there are more elements of Global South topics in this module.

Course 1 Environment, Society and Development in the Global South

Content This course teaches state-of the art research within the field environment, society, and development with a specific focus on understanding theoretical approaches to development geography and coupled human-environment systems in the Global South. The course provides the theoretical and historical foundations for understanding contemporary sustainability agendas, including approaches to sustainable development.
Requirements BSc in Geography and Geoinformatics or equivalent is recommended
Exams Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher Torben Birch-Thomsen

Course 2 The Dynamics of City Regions: Social and Economic Change

Content The course studies contemporary economic changes of city-regions by focusing on urban and regional development. Focus is on the rise of the post-industrial knowledge economy and the new economic and social geographies, the new divisions of labour and social classes and how these are linked to urban restructuring.
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Requirements
BSc in Geography and Geoinformatics or equivalent is recommended
Exams
Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher
Høgni Kalsø Hansen

Course 3 Land Use Transitions in the Global South

Content
The course provides an overview of the dominant contemporary land use transitions taking place in the Global South and analysis of how recent advances in land systems science are applied to understand these transitions. Based on theory and case studies, the course explores biophysical, socio-economic as well as institutional aspects of land use and land use change with specific focus on developing causal explanations for land use transitions. The course moreover explores land use transitions within the framework of ongoing international debates related to sustainable development, such as economic globalization, large scale land acquisitions, land abandonment, urbanization and nature conservation.
Requirements
BSc in Geography and Geoinformatics or equivalent is recommended
Exams
Written assignment, during course
ECTS: 7,5
Teacher
Ole Mertz

Course 4 Applied GIS and Geoinformatics for Urban Spatial Analysis

Content
This course focus on advanced spatial analysis using GIS/Geoinformatics and Remote Sensing. The overall aim is to bring the participants an understanding of the relevant theories and methodologies necessary to select appropriate strategies within the broad context of urban and regional geography. The theoretical background will be discussed during the classes and the practical implementation will be tried out in a number of practical exercises.
Requirements
BSc in Geography and Geoinformatics or equivalent is recommended
Exams
Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher
Lasse Møller-Jensen

Module 2: Human Geography and Geoinformatics (Block 2)

This is a continuation of module 1, addressing human geography in a broad sense, including topics such as development, economic, and social geography, as well as human-environment interactions and land use and global value chains. In addition, there is a GIS component for application of GIS to human geographical analysis. The focus is Global, but there are more elements of Global North topics in this module.

Course 1 Advanced Geoinformatics

Content

This course constitutes the introduction to the MSc specialization in Geoinformatics (in combination with its counterpart in Remote Sensing). The course's primary aim is to position its participants firmly at the most advanced level concerning theories and applications of Geographical Information Systems (GIS) and Geoinformatics in general. This is done within a multi-disciplinary framework rooted in the field of Geography. A secondary aim is an alignment of competences acquired at the BSc level to provide all participants with the necessary skills and software platform knowledge for the advanced courses within the MSc specialization in Geoinformatics.

Requirements

BSc in Geography and Geoinformatics or equivalent is recommended

Exams

Written assignment followed by oral exam, 20 minutes

ECTS: 7,5

Teacher

Thomas Balstrøm

Course 2 Urban and Rural Transformation: uneven geographies in the Global North

Content

This course provides an overview of how globalization, the social, political and economic processes of nation-states, cities and the countryside in combination with planning are key drivers behind geographical and spatial changes in contemporary urban and rural areas. This include focuses on the understanding of the transformation of urban and peri-urban regions, space and place and the conceptualisation of cities and landscapes together with emphasis on the rise of the new economy and economic restructuring, social geography including gentrification and the role of spatial planning.

Requirements

BSc in Geography and Geoinformatics or equivalent is recommended

Exams

Written assignment followed by oral exam, 20 minutes

ECTS: 7,5

Teacher

Lars Winther

Course 3 Globalisation and Dynamics in Global Value Chains

Content

The course provides an overview of economic-geographical globalization processes analysed through the Global Value Chain (GVC) approach. The focus is on GVCs linking developing countries and industrialised countries. The content of the course includes: core analytical concepts in the GVC approach (governance, institutional framework and upgrading); quality

and standards; corporate social responsibility in GVCs; position of small-scale producers; policy implications; fieldwork methods.
Requirements BSc in Geography and Geoinformatics or equivalent is recommended
Exams Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher Niels Fold

Course 4 Rural landscapes: transformation and governance

Content The aims of the course are: <ol style="list-style-type: none"> 1. to study and discuss processes of contemporary rural landscape changes, including driving forces, impacts, functions, and conflicts in different landscapes, ranging from traditional rural to peri-urban settings 2. to discuss rural landscape change from the perspective of important societal agendas, including opportunities and challenges for a green transition 3. to give insights into theories and methods to identify landscape characteristics, qualities, values, and resilience 4. to introduce different approaches and strategies to rural landscape planning and governance within the wider framework of national and international policies
Requirements Basic knowledge of landscape functions, processes and changes (bachelor level) is recommended
Exams Written assignment, during course
ECTS: 7,5
Teacher Anne Gravsholt Busck

Module 3: Physical Geography and remote sensing (Block 1)

This module focuses on a wide range of physical geographical topics such as climate change, coastal geoscience and soil science. It also addresses remote sensing of the environment, which has both physical and human geographical applications. The focus is global.

Course 1 Ecosystems, Climate and Climate Change

Content The focus of the course is on the relations between terrestrial ecosystems and global climate systems. Seen in a historical and present perspective as well as on a temporal and spatial scale, the interactions between climate and ecosystem are put in perspective of the ongoing and future climate change. Further, the course explain how models and data bases are used to develop future climate scenarios and reconstruction of previous climate conditions, as well as the anthropogenic role in the present changes in climate.
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Requirements BSc in Geography and Geoinformatics, ecology, physics, biology or equivalent is recommended
Exams Written assignment, 7 days, followed by oral exam, 20 minutes
ECTS: 7,5
Teacher Thomas Friborg

Course 2 Remote Sensing of the Bio-Geosphere

Content This competence-line course teaches state-of the art research of global-scale Earth Observation (EO) of our changing bio-geosphere. The theoretical background for monitoring various components of the bio-geosphere will be discussed during classes and software-based analysis tools will be introduced in a number of practical PC-based hands-on exercises during the course. The course includes an introduction to remote sensing data gateways/data-download, pre-processing and analysis of various state-of-the-art remote sensing satellite systems.
Requirements BSc in Geography and Geoinformatics or equivalent. Experience in basic remote sensing is a prerequisite.
Exams Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher Rasmus Fensholt

Course 3 Coastal Geoscience

Content This competence-line course teaches state-of the art knowledge within the field of coastal geoscience. The course focuses on coastal dynamics (processes) and coastal deposits on spatial and temporal scales ranging from seconds to millennia and from centimetres to multiple kilometres.
Requirements A BSc in Geography and Geoinformatics or equivalent is recommended
Exams Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher Aart Kroon

Module 4: Physical Geography and remote sensing (Block 2)

This is a continuation of module 3. It focuses on a wide range of physical geographical topics such as glacial geoscience and soil science. It also addresses advanced remote sensing and spatial analysis, which has both physical and human geographical applications. The focus is global.

Course 1 Glacial Geoscience

Content
This course teaches state-of the art subjects and research within the field of Glacial, Fluvial and Estuarine Geoscience.
Requirements
BSc in Geography and Geoinformatics or equivalent is recommended.
Exams
Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher
Thorbjørn Joest Andersen

Course 2 Environmental Soil Science

Content
This competence-line course teaches state-of the art research within the field of environmental soil science. The main topic for the course is: Soil functional and structural responses and feedbacks in relation to environmental and human stressors. Within this frame the course presents and discuss examples of impacts on soil conditions in relation to extreme events (drought, fires), climatic changes, area use and management. Examples are presented from studies in temperate as well as arctic regions.
Requirements
BSc in Geography and Geoinformatics or equivalent education is recommended.
Exams
Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher
Per Lennart Ambus

Course 3 Spatial and Temporal Pattern Analysis

Content
The purpose of this course is to introduce students to the concepts, terminology and methods related to analysis of spatial and temporal patterns in digital data. The course will discuss and analyze how patterns can be identified, measured and tested statistically through a series of lectures, hands-on exercises and student presentations.
Requirements
BSc in Geography and Geoinformatics or equivalent is recommended.
Exams
Written assignment followed by oral exam, 20 minutes
ECTS: 7,5
Teacher
Stéphanie Horion

2. Heidelberg University

Module 1: Challenging Topics in Urban & Economic Geography

This module brings together courses in urban and economic geography. Relevant theories, current developments, actual discussions and empirical studies.

Course 1 Mobilities

Content

The notion that individuals within urban areas have an inherent right to the city they inhabit is a concept found both in the works of Henry Lefebvre and David Harvey. Although their theories greatly contributed to our understanding of justice within cities, they are both rigid and static in its understanding of social phenomena. The New Mobilities Paradigm, pioneered by Sheller, Urry, and Cresswell, introduces some much-needed fluidity to our current appreciation of the interrelated nature of human interactions within urban spaces.

The goal of this course will be to complement the theory put forth by earlier thinkers of space with contemporary research that understand the fluid condition of modern phenomena. By refocusing the study through the lens of mobility we can better understand the complex interactions between residents of urban areas, and the relation they hold to the space they inhabit. This will allow us to embark on a journey that seeks to comprehend the interwoven and complex reality of cities, the spaces they produce, and how mobility dictates the reconfiguration of this social fabric.

Requirements

As this is a seminar, all those present will be expected to read the material and participate in the discussion. Additionally, students will be required to prepare a short presentation for class, based on the text and a topic previously discussed with the teachers.

Exams

Students will be required to sit through two evaluations. The first will take place half-way through the semester, while the latter test will happen at the end. Both will be in-person written exercises where the student will be expected to write a 3-to-5-page essay.

ECTS: 5

Teacher

Hamid A. Abud Russell & Carla Jung-König

Course 2 Governance Case Analysis – Is democracy dissolving into oil?

Content

In Alberta/Canada oil sand mining promises economic wealth but also leads to social disparities and ecological destruction. The boomtown of Fort McMurray is an excellent example to illustrate the many risks and challenges of governance practices that are associated with resource exploitation. Conceptually, governance refers to the coordination of different societal stakeholders toward the achievement of consensual goals. In practice, however, governance processes fail if they are poorly organized. As will become clear in the seminar, different contextual conditions (or geographies) influence governance outcome. As an urban planner, how do you avoid becoming subordinate to the interests of oil sands lobby groups, for example? The seminar is organized as a case study that, on the one hand, aims to identify and discuss the weaknesses of governance practices in Fort McMurray. On the other hand, it guides students to improve existing governance practices through appropriate governance design. The Regional Development Plan for Fort McMurray from 2012 serves as the starting point for the analyses of interrelated phenomena such as globalization, resource curse, geopolitical interdependencies, economic crisis, corruption,

gentrification, social capital, shadow population, etc. The students acquire (conceptual) expert knowledge and take on the roles of decision-makers in urban planning, the oil industry or within environmental organizations. By playing different roles, forming alliances with others and claiming interpretative sovereignty over their knowledge, students will experience the communicative challenges of governance practices at first hand. The course is strongly inspired by the documentary game 'Fort McMoney' created by the French filmmaker David Dufresne. https://www.davduf.net/-fort-mcmoney-61-?lang=en
Requirements Basic knowledge in economic geography, urban geography, or political geography
Exams group discussions, oral presentation, compose an essay on governance design
ECTS: 6
Teacher Dr Michael Handke

Course 3 North American Cities

Content Comprehensive overview of the Urban Geography of North America: urban theory, urban systems, recent and historical urban developments (urbanization, suburbanization, reurbanization), internal structure of cities (esp. urban inequalities, cultural patterns, neoliberalization), modeling and theorizing urban space, urban policies, planning the twenty-first-century city, future of cities. This lecture is complemented by selected guest talks from international scholars on urban geography.
Requirements The lecture will be accompanied by weekly readings that will be provided via Moodle. Basic reading suggestion for the whole class (highly recommended): Hahn, Barbara (2022): The U.S. City in Transition. Berlin: Springer.
Exams written exam (Klausur)
ECTS: 5
Teacher Prof Dr Ulrike Gerhard

Module 2: Physical Geography

This module combines methodological aspects for the investigation of soils and sediments in the field and in the lab with current issues of quaternary landscape evolution and the study of natural hazards.

Course 1 Geomorphological and geophysical investigation of quaternary soils and sediments

Content Field practical course for the investigation of soils and sediments in a geomorphological and/or geoarchaeological context. For this purpose, various field methods are used, such as geophysical methods (geoelectrics, refraction seismics, electromagnetics, radar), drilling techniques or soil and sediment analysis in the field. Aspects of Quaternary landscape evolution are addressed as well as human-environment interactions, which show impacts on earth surface processes and resulting geomorphological features.
Requirements The course usually takes place as a block course before the start of the lecture period.

Exams Scientific report
ECTS: 5
Teacher Prof. Dr. Olaf Bubenzer, Prof. Dr. Ingmar Unkel, Dr. Max Engel, Dr. Stefan Hecht, Dr. Annette Kadereit, Dr. Bertil Mächtle, Dr. Sebastian Kreuzer

Course 2 Sedimentological and geochemical analyses of soils and sediments

Content Laboratory practical course on the investigation of soils and sediments. Various laboratory methods for the characterisation of soils and sediments, such as grain size determination, carbonate determination, etc., are presented and practically applied.
Requirements Sampling usually takes place in connection with the field practical course on the investigation of soils and sediments (Course 1). Most of the course takes place in the Laboratory for Geomorphology and Geoecology.
Exams Written exam/report
ECTS: 5
Teacher Dr. Max Engel

Course 3 Hazards in drylands

Content Seminar on current natural hazards with a regional focus on the world's arid regions.
Requirements none
Exams term paper/presentation
ECTS: 5
Teacher Prof. Dr. Olaf Bubenzer

Course 4 Natural hazards in the Anthropocene

Content Seminar on natural hazards in the context of global change.
Requirements none
Exams term paper/presentation
ECTS: 5
Teacher Prof. Dr. Olaf Bubenzer, Prof. Dr. Ingmar Unkel, Dr. Max Engel

3. University of Milano

Module 1: Food Economies

Food systems are responsible for around one-quarter (26%) of global greenhouse gas emissions. This includes emissions from land use change, on-farm production, processing, transport, packaging, and retail. Therefore, studying them is the first step to understanding what is wrong and building a newer and better economy for our collective future. This module will deepen your knowledge on how the food industry functions, legally, practically, as well as subjectively.

Course 1: Food Chain in the Global Market

Content
The course introduces students to topics on international fragmentation of production in Global value chains, with special emphasis to the agri-food sector.
Requirements: no registration
Exams: January - February
ECTS: 6
Teacher: Raimondi Valentina Maria Paola

Course 2: Food Marketing and Consumer Behaviour

Content
The course explores how consumers behave when they buy food products and the main economic problems raised by marketing and consumer policy.
Requirements: no registration
Exams: January - February
ECTS: 6
Teacher: Stefanella Stranieri

Course 3: Environmental Management

Content
The course explores how consumers behave when they buy food products and the main economic problems raised by marketing and consumer policy.
Requirements: no registration
Exams: January - February
ECTS: 6
Teacher: Stefanella Stranieri

Course 4: Environmental and Food Law (OPTIONAL)

Content
The Environmental and Food Law course has the purpose to introduce students to the main international instruments regulating States' environmental policies and food security and safety policies. Analysis of cases, international conventions and declarations will provide a deep overview of States' practice and will offer the necessary tools for a proper knowledge of the leading literature by international lawyers.
Requirements: no registration
Exams: January - February
ECTS: 6
Teacher: Espa Ilaria, Musselli Irene

Module 2: Food Industry and Sustainability

Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. As the food industry and the energy one will play a more and more fundamental role for our progress, making them as sustainable as possible is indeed crucial. This module will give you a brief overview of the state-of-the-art of international regulations regarding environmental matters, to then go into the details of economic practices for both energy and sustainable businesses.

Course 1: Environmental and Food Law

Content
The Environmental and Food Law course has the purpose to introduce students to the main international instruments regulating States' environmental policies and food security and safety policies. Analysis of cases, international conventions and declarations will provide a deep overview of States' practice and will offer the necessary tools for a proper knowledge of the leading literature by international lawyers.
Requirements: no registration
Exams: January - February
ECTS: 6
Teacher: Espa Ilaria, Musselli Irene

Course 2: Energy Economics

Content
<i>This course provides an introduction to the principles of energy economics, with a focus on policy applications. It explores the theoretical and empirical perspectives on individual and industrial demand for energy, energy supply, energy markets, and public policies affecting energy markets. It discusses aspects of the oil, natural gas, electricity, renewables, and nuclear power sectors and examines energy tax, price regulation, deregulation, energy efficiency and policies for controlling emissions.</i>
Requirements: no registration

Exams: January - February
ECTS: 6
Teacher: Federico Pontoni

Course 3: Environmental Management (OPTIONAL)

<p>Content</p> <p>The focus is on managerial issues. Therefore, students will learn how to green the value chain, design an environmental management system, and report environmental achievements. Finally, students, in the third part, will learn how to conduct an environmental assessment.</p>
<p>Requirements: no registration</p>
<p>Exams: January - February</p>
<p>ECTS: 6</p>
<p>Teacher: Andrea Ganzaroli</p>

4. Sorbonne Paris

Module 1: Environmental changes and human impact: geographical perspectives

This module combines courses on different topics: from ecological challenges to social questions.

Course 1 Ecological challenges from a multidisciplinary perspective

<p>Content</p> <p>The major ecological and social crisis that Planet Earth, its territories, living environments and inhabitants are going through, makes it necessary to deal with systemic, multidisciplinary and interdisciplinary issues related to the environment. The increased sensitivity to the effects of human activities on the major balances of the biosphere, primarily climate change, the extinction of biodiversity, pollution, the considerable pressure on natural resources and settlement dynamics, raise important political and social debates. The major cycles such as water, carbon, nitrogen, the major telluric or climatic phenomena, energy resources, are all processes that must be rethought today in their interactions with human activities.</p> <p>The “Ecological challenges from a multidisciplinary perspective” seminar series of the EPOG+ Erasmus Mundus programme is jointly organised by the Université ParisCité’s Earth Politics Centre, the Sorbonne University’s Institute for Environmental Transition and the Graduate school “Sustainability and transitions”. All the sessions are given by world-specialist in the addressed field.</p>
<p>Content</p> <p><i>Indicative list of lectures:</i></p> <ol style="list-style-type: none"> 1. Introduction 2. Climate change: the Science behind the findings and projections 3. What does biodiversity mean? 4. Ordinary environmentalisms: mobilizations and spaces 5. Ecological limits & global health What is the horizon of survival for humanity? 6. Politics and policy of the energy transition

7.	Coupling social and ecological systems: theoretical and practical issues
8.	The new challenges of “natural” disaster risk reduction in the Anthropocene
9.	Agroecology
10.	The history of IPCC and the birth of sustainability sciences
11.	Rights of the Nature, rights and Nature
12.	The science and politics of Critical Zone
13.	The planetary boundaries: an interdisciplinary and multi-scale problem
14.	An introduction to Ocean Geopolitics
15.	What is environmental justice about?
16.	Geopolitics in (ecological) transition
17.	Students’ presentations
Requirements	
No pre-requisite, except a good level in English.	
Exams	
Project / group work	
ECTS: 3	
Teacher	
Collective course with various teachers. Responsible teachers: Nathalie Blanc and David Flacher.	

Course 2 Approche intégrée des bassins-versants (M1)

Content
This course relied on a systemic view of catchments developing (a) the geomorphological and geo-archeological part and (b) the biogeographical part. The notions allowing to apprehend the dynamics of these systems (fluvial morphology, vegetation succession) are treated and then applied to concrete case studies, in particular to the Roya valley in the Alpes-Maritimes which was hit by a violent storm in October 2020 and on which we have a research program. The students present their results to a jury made up of the teacher and the professional and/or scientific partner.
Requirements
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Exams
Presentation and written exam (in English possible)
ECTS: 3
Teacher
Eric Fouache and Marianne Cohen

Course 3 Ecologie urbaine, ville durable (M2)

Content
This course relies on a systemic view of urban sustainability considering both the social and the ecological aspect and the articulations between the two. After a theoretical introduction on the main notions allowing to apprehend these issues, we develop a project-based teaching on topics which can vary each year. Recent examples: urban, social and ecological impact of the Olympic Games projects in the department of Seine Saint Denis, evolution of practices and representations of green spaces in Paris (realization and analysis of surveys), dynamics and management of

invasive species in an urban wood (including field work). The students present their results to a jury made up of the teacher and the professional partner.

Requirements

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Exams

Presentation and written exam (in English possible)

ECTS: 3

Teacher

Florence Brondeau and Marianne Cohen

Module 2: Cultural and Social Geography

Food is central to the social practices of human groups and an important topic in Social Geography.

Course 1 Religion and Food

Food is central to the social practices of human groups. Western media has been multiplying articles around a central question that has become crucial in our societies: Are we still capable of eating together? The "communion" of the meal would be lost? Our plates reflect the double movement of secularization and the return of the religious. Religions have all produced dietary rules that allow the individual to live their human identity within a group recognized for its table rituals. This cycle of conferences first invites us on a world tour of these rules (2 to 7). Religious dietary restrictions still dominate consumption in a large part of the world: are they actually just a way of organizing production methods and markets? (8 and 10). Beyond allergies, which are often invoked but rarely real, everyone creates a dietary regimen based on personal ethical convictions (eating healthy, fair, respecting animal welfare, the environment, etc.): are we not witnessing the emergence of new religions or spiritualities? (11)

Content

1. *Eating is a profoundly religious act.*
2. *Judaism*
3. *Christianity*
4. *Islam*
5. *Hinduism*
6. *Buddhism*
7. *Shintoism*
8. *Should we seek a rational explanation for dietary restrictions?*
9. *Halal and kosher, so similar yet so different.*
10. *The food production of Catholic religious congregations.*
11. *Is organic and veganism the new religion?*

Requirements

Bilingual course: support and exercises in English (bi-modal or distance) and face-to-face course in French.

Exams

Individual exercise: Writing a summary note based on a file of various documents.

ECTS: 5

Teacher

Vincent Moriniaux

Module 3: Geography of Migration

This bloc adapts several concepts of social sciences to migratory processes.

Part I - *Geography of Migration*

Course 1 The migrants' body in European area

<p>Content</p> <p>The course examines how highly performative body technics impact migration practices and strategies. It gives tools for investigating and analyse body's representations implied during migration processes. It for instance analyses how gender questions or physical aspects modify migratory processes.</p>
<p>Requirements</p> <p>Bilingual course: support and exercises in English (bi-modal or distance) and face-to-face course in French.</p>
<p>Exams</p> <p>Collective performance and individual exercises.</p>
<p>ECTS: 5</p>
<p>Teacher</p> <p>Gaëlle Lacaze</p>

Part II - *Methodology*

Course 2 European fieldwork and visual anthropology

<p>Content</p> <p>Images take new place for fieldwork investigation, especially in migratory context. The course aims to formulate speeches and analyses through images (visual, audio-visual, soundscape, etc.). It also offers tools for using images for fieldwork investigations, for writing a story in images (writing, shooting, editing, diffusion, etc.). It develops a sensitive approach in geography.</p>
<p>Requirements</p> <p>Bilingual course: support and exercises in English (bi-modal or distance) and face-to-face course in French.</p>
<p>Exams</p> <p>Collective productions of films.</p>
<p>ECTS: 5</p>
<p>Teacher</p> <p>Gaëlle Lacaze</p>

Course 3 Quantitative methodology in social sciences

<p>Content</p> <p>The first objective of this course is to give an overview of the quantitative methods of data acquisition and analysis used by geographers and an overview of the most commonly used software. The second objective is a refresher course on Excel in the form of free exercises to review the common functions and good graphs. The third objective is to learn how to conduct a sociological survey by questionnaire (drafting of different forms of questions, sampling, execution mode, statistical analysis and presentation of results).</p>

Requirements
Bilingual course: support and exercises in English (bi-modal or distance) and face-to-face course in French.
Exams
Individual exercises and knowledge assessments
ECTS: 5
Teacher
Florence Huguenin-Richard

5. Warsaw University

Module 1: Geography of Sustainable Tourism

This module brings together courses in tourism and socio-economic geography. Relevant theories, current development, examples, actual discussions and empirical studies.

Course 1 Concepts in Tourism Geographies

Content
The course examines tourism as a global, national and local phenomenon, with economic, social, and environmental impacts. It brings together geographical concepts and theories and apply them to understand tourism development in the real-world places. It links tourism development to key geographical issues such as globalisation, mobility, social-ecological systems and global environmental change.
Requirements
Basic reading suggestions include: Hall C.M., Page S.J. (2014): The geography of tourism and recreation: Environment, place and space, London: Routledge. Williams S., Lew A.A. (2014): Tourism Geography. Critical Understandings of Place, Space and Experience, London: Routledge.
Exams
Written exam
ECTS: 5
Teacher
Dr Marta Derek

Course 2 Heritage Tourism

Content
Heritage tourism is a field course preceded by introductory lectures. The aim of the lectures is to acquaint the students with the different types of the natural and cultural heritage, and show - on the examples from Europe/World - their usage in tourism. During the study tour, both the conditions and diversity of heritage in Gdańsk Pomerania are presented (e.g. seaside landscape, architectural, industrial, military, religious, Kashubian heritage, etc.), as well as ways of using this heritage in tourism in the context of (sustainable) development and emerging spatial problems and social conflicts.

<p>Requirements</p> <p>Basic reading suggestion for the whole class:</p> <p>Dallen T., Boyd S.W. (2003): <i>Heritage Tourism</i>, Edinburgh: Pearson Education Limited.</p> <p>Henriques C., Moreira M.C., César P.A.B. (Eds.) (2016): <i>Tourism and History World Heritage – Case Studies of Ibero-American Space</i>, Interdisciplinary Centre of Social Sciences – University of Minho (CICS.NOVA.UMinho).</p> <p>Richards G. (Ed.) (1996): <i>Cultural Tourism in Europe</i>, Wallingford: CABI.</p>
<p>Exams</p> <p>Written exam (test)</p>
<p>ECTS: 5</p>
<p>Teachers</p> <p>Assoc. prof. Małgorzata Durydiwka, Dr Piotr Kociszewski</p>

Course 3 Tourism and Cities

<p>Content</p> <p>The course including the factors determining the tourist attractiveness of the cities and towns. Urban tourism is presented as a complex of different types of tourist activities (business tourism, heritage tourism, cultural & art tourism, shopping culinary tourism, sport tourism, etc.). The other issue is urban tourism planning (including revitalisation programmes).</p>
<p>Requirements</p> <p>Basic reading suggestions include:</p> <p>Bellini N., Pasquinelli C. (eds.) (2017): <i>Tourism in the city. Towards an integrative agenda on urban tourism</i>, Springer</p> <p>Law Ch.M. (1996): <i>Urban tourism. attracting visitors to large cities</i>, Mansell</p> <p>Maitland R., Ritchie B.W. (2009): <i>City tourism</i>, CABI</p> <p>Spirou C. (2011): <i>Urban tourism and urban change. Cities in global economy</i>, Routledge</p>
<p>Exams</p> <p>Written exam (test)</p>
<p>ECTS: 5</p>
<p>Teacher</p> <p>Prof. Andrzej Kowalczyk</p>

Module 2: Introduction to analysis and visualization of spatial data acquired from databases and satellite images

The module provides introduction to the process of spatial data acquisition, analysis and visualization. The focus is given into the two kinds of data sources: satellite imagery as a source of raster data and spatial databases with vector data. There are covered theoretical foundations, but the emphasis is put on the practice with use of GIS software of different kinds.

Course 1. Data acquisition and display - 12h

<p>Content</p> <p>Raster and vector databases Acquisition of free multispectral satellite data, including Landsat and Sentinel. Basics of analysis and data display.</p>
<p>Requirements</p> <p>Bachelor's degree in geography/geoinformatics or related. Experience in use of GIS software on at least a basic level. Reading: Brewer C., 2015, <i>Designing better maps: a guide for GIS users</i>, ESRI Press</p>
<p>Exams</p> <p>exercises</p>
<p>ECTS: 3</p>
<p>Teacher</p> <p>Izabela Gołębiowska, Anna Jarocińska, Marcin Kluczek, Jolanta Korycka-Skorupa, Marlena Kycko, Adriana Marcinkowska-Ochtyra, Adrian Ochtyra, Tomasz Nowacki, Wojciech Pokojski, Anita Sabat-Tomala, Karolina Wereszczyńska</p>

Course 2. Data processing and visualization - 34 h

<p>Content</p> <p>Preprocessing of satellite data. Quantitative and qualitative analyses: calculation of remote sensing indicators, basics of image classification. Introduction to map graphics Color use in thematic mapping Common map types</p>
<p>Requirements</p> <p>Completed the first part of the module Reading: Golebiowska, I., Korycka-Skorupa, J., and Slomska-Przech, K., 2021. Common Thematic Map Types. The Geographic Information Science & Technology Body of Knowledge (2nd Quarter 2021 Edition), John P. Wilson (ed.). DOI: 10.22224/gistbok/2021.2.7. Kraak MJ, Roth RE, Ricker B, Kagawa A, Le Sourd G, 2020. Mapping for a Sustainable World. United Nations: New York, NY (USA).</p>
<p>Exams</p> <p>exercises</p>
<p>ECTS: 5</p>

Teacher

Izabela Gołębiowska, Anna Jarocińska, Marcin Kluczek, Jolanta Korycka-Skorupa, Marlena Kycko, Adriana Marcinkowska-Ochtyra, Adrian Ochtyra, Tomasz Nowacki, Wojciech Pokojski, Anita Sabat-Tomala, Karolina Wereszczyńska

Course 3. Change detection analysis and thematic mapping - 44 h**Content**

Qualitative and quantitative analysis of changes in satellite images
 Visual hierarchy in maps
 Multivariate thematic mapping
 Design map layout
 Execution and presentation of the projects conducted individually by each participant.

Requirements

Completed the first and second part of the module

Exams

project

ECTS: 7

Teacher

Izabela Gołębiowska, Anna Jarocińska, Marcin Kluczek, Jolanta Korycka-Skorupa, Marlena Kycko, Adriana Marcinkowska-Ochtyra, Adrian Ochtyra, Tomasz Nowacki, Wojciech Pokojski, Anita Sabat-Tomala, Karolina Wereszczyńska