# Programme-specific Section of the Curriculum for the MSc Programme in Geography and Geoinformatics at the Faculty of Science, University of Copenhagen

2017 (Rev. 2025)

## Contents

# 1 Title, affiliation and language

A shared section that applies to all BSc, part-time MSc and MSc Programmes at the Faculty of Science is linked to this programme-specific curriculum.

## 1.1 Title

The MSc Programme in Geography and Geoinformatics leads to a Master of Science (MSc) in Geography and Geoinformatics with the Danish title: *Cand.scient. (candidatus/candidata scientiarum) i geografi og geoinformatik.*

## 1.2 Affiliation

The programme is affiliated with the Study Board of Geosciences and Management, and the students can both elect, and be elected, to this study board.

## 1.3 Corps of external examiners

The following corps of external examiners is used for the central parts of the MSc Programme:

- Corps of External Examiners for Geography (*geografi*).

## 1.4 Language

The language of this MSc Programme is English.

# 2 Academic profile

## 2.1 Purpose

Graduates in Geography and Geoinformatics are able to apply geographical methods of working in a critical manner and communicate academic problems and model solutions to geographers and to other partners and users. The breadth and interdisciplinary nature of the programme enables them to engage in and manage complex tasks and projects related to a wide range of societal challenges and sustainable development. They are also able to understand and work with people from different scientific backgrounds, and act as bridge-builders between the natural and societal sciences.

## 2.2 General programme profile

The study programme is structured around three specialisation profiles namely Geoinformatics, Physical Geography and Human Geography. Each specialisation includes a number of mandatory and specialised restricted elective courses. The MSc programme includes a thesis, which is an independent experimental, field-based or theoretical study within a clearly defined area of the geographical fields of study.

Geography and Geoinformatics is the key subject area of the programme.

## 2.3 General structure of the programme

The MSc Programme is set at 120 ECTS.

The MSc Programme in Geography and Geoinformatics consists of the following elements:

- Specialisation 120 ECTS.

The student must choose one of the following specialisations:

- Geoinformatics
- Physical Geography
- Human Geography

## 2.4 Career opportunities

The MSc Programme in Geography and Geoinformatics qualifies students to become professionals within business functions and/or areas such as:

- Consultants and advisors in private consultancy firms or non-governmental organisations

- Public administration in municipalities or ministries, e.g., as urban, rural, regional or environmental planner
- Specific sectors such as communication, real estate development and finance, e.g. as sustainability advisors, and development advisors on Global South issues in the UN-system and other aid organisations, including consultancies and NGOs
- A PhD programme
- Teacher in geography in the upper secondary school or other educational institutions.

# 3 Description of competence profiles

Students following the MSc Programme acquire the knowledge, skills and competences listed below. Students will also acquire other qualifications through elective subject elements and other study activities.

## 3.1 Geoinformatics

Graduates holding an MSc in Geography and Geoinformatics with a specialisation in Geoinformatics have acquired the following:

Knowledge about:

- Theory and concepts within Geographical information systems (GIS)
- Theory and concepts within remote sensing (Earth observation/EO)
- Programing, Customization and Automation in GIS.
- Earth observation platforms
- Relevant GIS and EO data models.
- Processing of data from registers and digital maps.
- Advanced use of GIS for applications within Geography, including spatial planning.
- Acquiring, processing and applications of contemporary remote sensing for environmental monitoring and modelling.
- Advanced methods for spatial analysis and modelling.
- State-of-the-art environmental monitoring algorithms within optical and thermal infrared remote sensing.
- Advanced methods of mapping and visualizations.

Skills in/to:

- Perform advanced GIS/EO-based spatial analysis, based on relevant data sets and appropriate methods.
- Perform advanced EO-based spatial analysis, based on relevant data sets and appropriate methods.
- Manage relevant GIS/EO software on an advanced level including programming and automation.
- Integrate EO data with other data in a GIS environment.
- Conduct effective visual communication of spatial data and the results of spatial analysis.
- Select appropriate EO data and methodology for areas covering the interaction between environmental resources, the dynamics and management of global and local land use, and global climate change.
- Assess data quality, e.g. in terms of uncertainty, in order to understand and describe the limitations of current EO and GIS technology.
- Oral and written communication to peers and the wider public of research and projects with important elements of GIS and/or EO.

Competences in/to:

- Work at a high scientific and application-oriented level with theoretical and methodological approaches to the application of GIS that are able to address a broad range of societal challenges.

- Apply theoretical and methodological approaches to EO to a wide range of range of societal challenges.
- Theorise and understand how geoinformatics including GIS and EO may be integrated in different scientific fields including environmental monitoring and modelling on both local and global scales.
- Work individually or in teams to design and implement projects with GIS and EO dimensions.

### 3.2 Physical Geography

Graduates holding an MSc in Geography and Geoinformatics with a specialisation in Physical Geography have acquired the following:

Knowledge about:

- The physical processes of ecosystems with relation to exchange of energy, water and carbon.
- The application of global climate models to spatio-temporal variations in the global climate.
- Theoretical understanding and up-to-date research on selected topics in Arctic, Danish and tropical ecosystems with focus on soils, vegetation and changing land use.
- The interplay between atmospheric circulation and radiation/energy balance and correlation with the global climate and hydrology.
- Major landforms and their genesis, and their potential use as archives of environmental change.
- The potential effect of sea-level and climate change on landscape processes and geomorphology.
- Methods and equipment used in the study of glacial, fluvial and coastal environments.

Skills in/to:

- Identify and apply appropriate methods for assessing chemical and physical processes in soil related to climate change, changing land use and pollution.
- Identify and describe key factors that control a range of biogeochemical processes and net effects in terms of the environmental impact of pollutants and greenhouse gases.
- Identify and describe key factors and apply appropriate methods within glacial, fluvial and coastal science.
- Assess the relationship between terrestrial ecosystems and global climate systems contextualized via historical and present-day perspectives and across a range of temporal and spatial scales – from seconds to millennia and from stomata to continents.
- Assess how models at different scales and databases can be used to enhance our understanding of present and historical climate and predict future development in climatic trends.
- Design and carry out studies and research projects within the fields of geomorphology, sediment transport and landscape processes.
- Oral and written communication to peers and the wider public of research and projects within physical geography.

Competences in/to:

- Work at a high scientific and application-oriented level with theoretical and methodological approaches to understanding ecosystem processes, climate change, effects of land use change, pollution and other important societal challenges
- Apply theoretical and methodological approaches in glacial, fluvial and coastal geoscience at a high scientific level to address important societal challenges such as sea level rise, pollution, and coastal change.

- Work with complex models across the physical geography domain in order to solve interdisciplinary challenges.
- Work with appropriate methods used in theoretical and field-based studies of sediment transport in the fluvial and coastal environment as well as in glacial geomorphology.
- Select appropriate methods used in theoretical and field-based studies of ecosystem processes, climate change, and pollution of the environment
- Work individually or in teams to design and implement projects with physical geography dimensions.

### 3.3 Human Geography

Graduates holding an MSc in Geography and Geoinformatics with a specialisation in Human Geography have acquired the following:

Knowledge about:

- Theoretical approaches and key conceptualisations of space and place in development geography, human-environment interactions and spatial planning in the Global South.
- Globalisation processes and their geographical implications from local to global scales for sustainable development including the dynamics of global value chains, migration, urbanisation, rural-urban connections and land use change in the Global South.
- Theoretical approaches to human geography and key conceptualisations of space and place including social and economic geography as well as human environment interactions and spatial planning in the Global North.
- The geographical implications of globalization and sustainable development from local to global scales, including transformation of cities, regions and landscapes, urbanization, and rural-urban connections and land use change in the Global North.
- The relationship between environmental change and human activity including resilience, vulnerability and adaptive processes.
- The role of uneven geographical development including its implications for urban and regional development as well as rural and urban livelihoods.

Skills in/to:

- Design and perform studies and research projects within the field of regional, economic and social geography.
- Design and perform studies and research projects within the field of development geography and human-environment interactions.
- Select appropriate quantitative and qualitative methodologies for problem-based research.
- Present theoretical arguments, conduct theoretical and empirical assessments and use the appropriate theories, methods and data to perform scientific analyses within the field of human geography.
- Plan and perform field work and projects within human geographical topics.
- Compile and analyse complex data from a variety of sources.
- Oral and written communication to peers and the wider public of research and projects within human geography

Competences in/to:

- Address important societal challenges such as sustainability in value chains, migration flows and land use change with a basis in a scientific and application-oriented level of knowledge of development geography and human environment interactions.
- Address important societal challenges such as uneven regional and socioeconomic development, planning, and urbanization.

- Work with interdisciplinary dimensions of human geographical processes and their impacts and spatial aspects at different scales.
- Work individually or in teams to design and implement projects with human geographical dimensions.
- Work in and understand the implications of cross-cultural contexts.

# 4 Admission requirements

## 4.1 Bachelor's degrees that automatically fulfil the academic requirements

Applicants with one of the following Bachelor's degrees automatically fulfil the academic requirements for admission to the MSc Programme in Geography and Geoinformatics:

- Geography and Geoinformatics (*geografi og geonformatik*) from University of Copenhagen (reserved access)
- Geography from Aalborg University
- Surveying and Mapping (*landinspektørvidenskab*) from Aalborg University.
- Urban, Energy and Environmental Planning (*By-, energi- og miljøplanlægning*) from Aalborg University.
- Humanities-Technological (*humanistisk-teknologisk*) with specialisation in Geography from Roskilde University
- Natural Sciences (*naturvidenskabelig*) with specialisation in Geography from Roskilde University
- Social Sciences (*samfundsvidenskabelig*) with specialisation in Geography from Roskilde University
- Natural resources (*naturressourcer*) from University of Copenhagen.

## 4.2 Other Bachelor's degrees

Applicants with a Bachelor's degree, Professional Bachelor's degree or equivalent from Danish or international universities other than those listed in 4.1 for admission to the MSc Programme in Geography and Geoinformatics if the programme includes the following:

- Minimum 60 ECTS corresponding to courses from the Bachelors's Programme in Geography and Geoinformatics from University of Copenhagen.

## 4.3 Other applicants

The Faculty may also admit applicants who, after an individual academic assessment, are assessed to possess educational qualifications equivalent to those required in 4.1-4.4.

## 4.4 Language requirements

Applicants must be able to document English proficiency corresponding to one of the following:

- upper secondary school degree, bachelor's degree or master's degree in English from Australia, Canada, Ireland, New Zealand, United Kingdom or USA.
- Nordic entrance examination with an English level comparable to the Danish level B or higher
- International Baccalaureate (IB) from an international school
- European Baccalaureate (EB) from one of the approved schools
- English B or A as Single Subject Course in Denmark
- Abiturzeugnis from Germany
- IELTS test score of minimum 6.5
- TOEFL test score of minimum 83

- Cambridge Advanced English (CAE) or Cambridge English: Proficiency (CPE) passed at level C1 or C2

### 4.5 Supplementary subject elements

The qualifications of an applicant to the MSc programme are assessed exclusively on the basis of the qualifying Bachelor's degree. Supplementary subject elements passed between the completion of the bachelor's program and the admission to the MSc programme cannot be included in the overall assessment.
However, subject elements passed before the completion of the Bachelor's program may be included in the overall assessment. This includes subject elements completed as continuing education as well as subject elements completed as part of a former higher education program. A maximum of 30 ECTS supplementary subject elements can be included in the overall assessment.

Subject elements passed before completing the Bachelor's programme which are to form part of the MSc programme to which the student has a legal right of admission (§15-courses) cannot be included in the overall assessment.

## 5 Prioritisation of applicants

With a Bachelor's degree in Geography and Geoinformatics from University of Copenhagen the student is granted reserved access and guaranteed a place on the MSc Programme in Geography and Geoinformatics if the student applies in time to begin the MSc Programme within three years of the completion of the Bachelor's degree.

If the number of qualified applicants to the programme exceeds the number of places available, applicants will be prioritised according to the following criteria:

- Total number of ECTS in courses in geography and geoinformatics
- Grade-point average achieved in qualifying degree within courses in geography and geoinformatics

## 6 Structure of the programme

The compulsory subject elements, restricted elective subject elements and the thesis constitute the central parts of the programme (Section 30 of the Ministerial order on Bachelor and Master's Programmes (Candidatus) at Universities).

### 6.1 Geoinformatics

The specialisation is set at 120 ECTS and consists of the following:

- Compulsory subject elements, 15 ECTS.
- Restricted elective subject elements
  - 45 ECTS (thesis, 45 ECTS credit).
  - 30 ECTS (thesis, 60 ECTS credit).
- Elective subject elements, 15 ECTS.
- Thesis, 45 or 60 ECTS.

#### *6.1.1 Compulsory subject elements*

All of the following subject elements are to be covered (15 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK17010U | Remote Sensing of the Bio-Geosphere | Block 1 | 7.5 ECTS |
| NIGK15001U | Advanced Geoinformatics | Block 2 | 7.5 ECTS |

### *6.1.2 Restricted elective subject elements*

1) 15 ECTS are to be covered as subject elements from the following list:

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NGEK10002U | Applied GIS and Geoinformatics for Urban Spatial Analysis | Block 1 | 7.5 ECTS |
| NIGK17011U | Spatial and Temporal Pattern Analysis | Block 2 | 7.5 ECTS |
| NIGK17012U | Remote Sensing in Land Science Studies | Block 3 | 7.5 ECTS |
| NIGK15002U | Aerial and Near-field Remote Sensing | Block 3 | 7.5 ECTS |
| NIGK15021U | Programming, Customization and Automation in GIS | Block 4 | 7.5 ECTS |
| NIGK22000U | Satellite Image Processing and Analysis in the Big Data Era | Block 4 | 7.5 ECTS |

2) 30 ECTS are to be covered as subject elements from the following list (thesis, 45 ECTS):
15 ECTS are to be covered as subject elements from the following list (thesis, 60 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK23004U | Environment, Society and Development in the Global South | Block 1 | 7.5 ECTS |
| NIGK14009U | Land Use Transitions in the Global South | Block 1 | 7.5 ECTS |
| NGEK10015U | The Dynamics of City Regions: Social and Economic Change | Block 1 | 7.5 ECTS |
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK17014U | Coastal Geoscience | Block 1 | 7.5 ECTS |
| NGEK10002U | Applied GIS and Geoinformatics for Urban Spatial Analysis | Block 1 | 7.5 ECTS |
| NIGK23013U | Urban and Rural Transformation: Uneven Geographies in the Global North | Block 2 | 7.5 ECTS |
| NIGK23007U | Glacial Geoscience | Block 2 | 7.5 ECTS |
| NGEK10024U | Globalisation and Dynamics in Global Value Chains | Block 2 | 7.5 ECTS |
| NIGK23009 | Rural Landscapes: Transformation and Governance | Block 2 | 7.5 ECTS |
| NNDK22001U | Videregående fagdidaktik i naturvidenskabelige fag | Block 2 | 7.5 ECTS |
| NIGK17016U | Environmental Soil Science | Block 2 | 7.5 ECTS |
| NIGK17011U | Spatial and Temporal Pattern Analysis | Block 2 | 7.5 ECTS |
| NIGK21000U | Numerical Modelling in Coastal, Estuarine and Marine Environments | Block 3 | 7.5 ECTS |
| NIGK15027U | Surface Hydrology | Block 3 | 7.5 ECTS |
| NGEK11006U | International Migration - Flows, Networks and Diasporas | Block 3 | 7.5 ECTS |
| LFKK10278U | Project Management | Block 3 | 7.5 ECTS |
| LNAK10066U | Planlægning i det åbne land | Block 3 | 7.5 ECTS |
| NIFK23006U | Practicing Interdisciplinary Field Research on the Environment | Block 3 | 15 ECTS |
| NIGK17012U | Remote Sensing in Land Science Studies | Block 3 | 7.5 ECTS |
| NIGK15002U | Aerial and Near-field Remote Sensing | Block 3 | 7.5 ECTS |
| NIGK20001U | Rural-Urban Transformations in the Global South | Block 4 | 7.5 ECTS |
| NIGK15005U | Ecological Modelling | Block 4 | 7.5 ECTS |
| NIGK13012U | Human Adaptation to Climate Change and Variability | Block 4 | 7.5 ECTS |
| LNAK10010U | Environmental Impact Assessment | Block 4 | 7.5 ECTS |
| NIGK14008U | VVM i praksis | Block 4 | 7.5 ECTS |
| NIGK23005U | Carbon Storage and Biological Interactions in Soil | Block 4 | 7.5 ECTS |
| NIGK15021U | Programming, Customization and Automation in GIS | Block 4 | 7.5 ECTS |
| NIGK22000U | Satellite Image Processing and Analysis in the Big Data Era | Block 4 | 7.5 ECTS |
| NIGK15006U | Field and Methods Course in Geography and Geoinformatics | Block 1-5 | 15 ECTS |
| NIGK15022U | Project Course in Geography and Geoinformatics | Block 1-5 | 7.5 ECTS |
| NFKK14006U | Project in Practice | Block 1-5 | 15 ECTS |

### *6.1.3 Elective subject elements*

15 ECTS are to be covered as elective subject elements.

- All subject elements at MSc level may be included as elective subject elements in the MSc Programme.
- BSc subject elements corresponding to 15 ECTS may be included in the MSc Programme.
- Projects. See 6.1.4 Projects.

### *6.1.4 Projects*

- Projects outside the course scope (PUK) may be included in the elective section of the programme with up to 15 ECTS. The regulations are described in Appendix 5 to the shared section of the curriculum.
- Projects in practice (PIP) may be included in the elective or restricted elective section of the programme with 15 ECTSPIP may not exceed 15 ECTS in total of the programme. PIP may be written as a combination of the restricted elective and elective section of the programme. The regulations are described in Appendix 4 to the shared section of the curriculum.
- Thesis preparation projects (PREP) may not be included in the elective section of the programme. The regulations are described in Appendix 6 to the shared section of the curriculum.

### *6.1.5 Thesis*

The MSc Programme in Geography and Geoinformatics with a specialisation in Geoinformatics includes a thesis corresponding to 45 or 60 ECTS, as described in Appendix 2 to the shared curriculum. The thesis must be written within the academic scope of the programme.

### *6.1.6 Academic mobility*

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Geoinformatics (thesis, 45 ECTS credit) is placed in block 3+4 of the first year.
The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Geoinformatics (thesis, 60 ECTS credit) is placed in block 3+4 of the first year.

Academic mobility requires that the student follows the rules and regulations regarding pre-approval and credit transfer.

In addition, the student has the possibility to arrange similar academic mobility in other parts of the programme.

## 6.2 Physical Geography

The specialisation is set at 120 ECTS and consists of the following:

- Compulsory subject elements, 15 ECTS.
- Restricted elective subject elements
  - 45 ECTS (thesis, 45 ECTS).
  - 30 ECTS (thesis, 60 ECTS).
- Elective subject elements, 15 ECTS.
- Thesis, 45 or 60 ECTS.

### *6.2.1 Compulsory subject elements*

All of the following subject elements are to be covered (15 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK23007U | Glacial Geoscience | Block 2 | 7.5 ECTS |

### *6.2.2 Restricted elective subject elements*

1) 15 ECTS are to be covered as subject elements from the following list:

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK17014U | Coastal Geoscience | Block 1 | 7.5 ECTS |
| NIGK17016U | Environmental Soil Science | Block 2 | 7.5 ECTS |
| NIGK21000U | Numerical Modelling in Coastal, Estuarine and Marine Environments | Block 3 | 7.5 ECTS |
| NIGK15027U | Surface Hydrology | Block 3 | 7.5 ECTS |
| NIGK15005U | Ecological Modelling | Block 4 | 7.5 ECTS |
| NIGK23005U | Carbon Storage and Biological Interactions in Soil | Block 4 | 7.5 ECTS |
| NIGK19004U | Marine Geoscience | Block 5 | 7.5 ECTS |

2) 30 ECTS are to be covered as subject elements from the following list (thesis, 45 ECTS):
15 ECTS are to be covered as subject elements from the following list (thesis, 60 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK17010U | Remote Sensing of the Bio-Geosphere | Block 1 | 7.5 ECTS |
| NGEK10002U | Applied GIS and Geoinformatics for Urban Spatial Analysis | Block 1 | 7.5 ECTS |
| NIGK23004U | Environment, Society and Development in the Global South | Block 1 | 7.5 ECTS |
| NIGK14009U | Land Use Transitions in the Global South | Block 1 | 7.5 ECTS |
| NIGK17014U | Coastal Geoscience | Block 1 | 7.5 ECTS |
| NIGK14056U | Climate Change and Water Resources | Block 2 | 7.5 ECTS |
| NIGK15001U | Advanced Geoinformatics | Block 2 | 7.5 ECTS |
| NIGK17011U | Spatial and Temporal Pattern Analysis | Block 2 | 7.5 ECTS |
| NIGK15011U | Geopolitics of Climate Change | Block 2 | 7.5 ECTS |
| NNDK22001U | Videregående fagdidaktik i naturvidenskabelige fag | Block 2 | 7.5 ECTS |
| NIGK17016U | Environmental Soil Science | Block 2 | 7.5 ECTS |
| NIGK17012U | Remote Sensing in Land Science Studies | Block 3 | 7.5 ECTS |
| LFKK10278U | Project Management | Block 3 | 7.5 ECTS |
| NIGK15002U | Aerial and Near-field Remote Sensing | Block 3 | 7.5 ECTS |
| NIGK21000U | Numerical Modelling in Coastal, Estuarine and Marine Environments | Block 3 | 7.5 ECTS |
| NIGK15027U | Surface Hydrology | Block 3 | 7.5 ECTS |
| NIGK15021U | Programming, Customization and Automation in GIS | Block 4 | 7.5 ECTS |
| NIGK13012U | Human Adaptation to Climate Change and Variability | Block 4 | 7.5 ECTS |
| LNAK10010U | Environmental Impact Assessment | Block 4 | 7.5 ECTS |
| NIGK14008U | VVM i praksis | Block 4 | 7.5 ECTS |
| NIGK22000U | Satellite Image Processing and Analysis in the Big Data Era | Block 4 | 7.5 ECTS |
| NIGK15005U | Ecological Modelling | Block 4 | 7.5 ECTS |
| NIGK23005U | Carbon Storage and Biological Interactions in Soil | Block 4 | 7.5 ECTS |
| NIGK19004U | Marine Geoscience | Block 5 | 7.5 ECTS |
| NIGK15006U | Field and Methods Course in Geography and Geoinformatics | Block 1-5 | 15 ECTS |
| NIGK15022U | Project Course in Geography and Geoinformatics | Block 1-5 | 7.5 ECTS |
| NFKK14006U | Project in Practice | Block 1-5 | 15 ECTS |

### *6.2.3 Elective subject elements*

15 ECTS are to be covered as elective subject elements.

- All subject elements at MSc level may be included as elective subject elements in the MSc Programme.
- BSc subject elements corresponding to 15 ECTS may be included in the MSc Programme.
- Projects. See 6.2.4 Projects.

### *6.2.4 Projects*

- Projects outside the course scope (PUK) may be included in the elective section of the programme with up to 15 ECTS. The regulations are described in Appendix 5 to the shared section of the curriculum.
- Projects in practice (PIP) may be included in the elective and/or restricted elective section of the programme with 15 ECTS. PIP may not exceed 15 ECTS in total on the restricted elective and elective section of the programme. PIP may be written as a combination of the restricted elective and elective section of the programme. The regulations are described in Appendix 4 to the shared section of the curriculum.
- Thesis preparation projects (PREP) may not be included in the elective section of the programme. The regulations are described in Appendix 6 to the shared section of the curriculum.

### *6.2.5 Thesis*

The MSc Programme in Geography and Geoinformatics with a specialisation in Physical Geography includes a thesis corresponding to 45 or 60 ECTS, as described in Appendix 2 to the shared curriculum. The thesis must be written within the academic scope of the programme.

### *6.2.6 Academic mobility*

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Physical Geography (thesis, 45 ECTS) is placed in block 3+4 of the first year.

The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Physical Geography (thesis, 60 ECTS) is placed in block 3+4 of the first year.

Academic mobility requires that the student follows the rules and regulations regarding pre-approval and credit transfer.

In addition, the student has the possibility to arrange similar academic mobility in other parts of the programme.

## 6.3 Human Geography

The specialisation is set at 120 ECTS and consists of the following elements:

- Compulsory courses, 15 ECTS.
- Restricted elective subject elements
  - 45 ECTS (thesis, 45 ECTS).
  - 30 ECTS (thesis, 60 ECTS).
- Elective subject elements, 15 ECTS.
- Thesis, 45 or 60 ECTS.

### *6.3.1 Compulsory subject elements*

All of the following subject elements are to be covered (15 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK23004U | Environment, Society and Development in the Global South | Block 1 | 7.5 ECTS |
| NIGK23013U | Urban and Rural Transformation: Uneven Geographies in the Global North | Block 2 | 7.5 ECTS |

### *6.3.2 Restricted elective subject elements*

1) 15 ECTS are to be covered as subject elements from the following list:

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK14009U | Land Use Transitions in the Global South | Block 1 | 7.5 ECTS |
| NGEK10015U | The Dynamics of City Regions: Social and Economic Change | Block 1 | 7.5 ECTS |
| NGEK10024U | Globalisation and Dynamics in Global Value Chains | Block 2 | 7.5 ECTS |
| NIGK23009U | Rural Landscapes: Transformation and Governance | Block 2 | 7.5 ECTS |
| NGEK11006U | International Migration - Flows, Networks and Diasporas | Block 3 | 7.5 ECTS |
| NIGK20001U | Rural-Urban Transformations in the Global South | Block 4 | 7.5 ECTS |

2)30 ECTS are to be covered as subject elements from the following list (thesis, 45 ECTS):
15 ECTS are to be covered as subject elements from the following list (thesis, 60 ECTS):

| Course Code | Course Title | Block | ECTS |
|---|---|---|---|
| NIGK17010U | Remote Sensing of the Bio-Geosphere | Block 1 | 7.5 ECTS |
| NGEK10002U | Applied GIS and Geoinformatics for Urban Spatial Analysis | Block 1 | 7.5 ECTS |
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK14009U | Land Use Transitions in the Global South | Block 1 | 7.5 ECTS |
| NGEK10015U | The Dynamics of City Regions: Social and Economic Change | Block 1 | 7.5 ECTS |
| NIGK15001U | Advanced Geoinformatics | Block 2 | 7.5 ECTS |
| NIGK17011U | Spatial and Temporal Pattern Analysis | Block 2 | 7.5 ECTS |
| NIGK15011U | Geopolitics of Climate Change | Block 2 | 7.5 ECTS |
| NNDK22001U | Videregående fagdidaktik i naturvidenskabelige fag | Block 2 | 7.5 ECTS |
| NGEK10024U | Globalisation and Dynamics in Global Value Chains | Block 2 | 7.5 ECTS |
| NIGK23009U | Rural Landscapes: Transformation and Governance | Block 2 | 7.5 ECTS |
| NIGK17012U | Remote Sensing in Land Science Studies | Block 3 | 7.5 ECTS |
| LFKK10278U | Project Management | Block 3 | 7.5 ECTS |
| NIFK23006U | Practicing Interdisciplinary Field Research on the Environment | Block 3 | 15 ECTS |
| LNAK10066U | Planlægning i det åbne land | Block 3 | 7.5 ECTS |
| NIGK15002U | Aerial and Near-field Remote Sensing | Block 3 | 7.5 ECTS |
| NGEK11006U | International Migration - Flows, Networks and Diasporas | Block 3 | 7.5 ECTS |
| NIGK15021U | Programming, Customization and Automation in GIS | Block 4 | 7.5 ECTS |
| NIGK13012U | Human Adaptation to Climate Change and Variability | Block 4 | 7.5 ECTS |
| LNAK10010U | Environmental Impact Assessment | Block 4 | 7.5 ECTS |
| NIGK14008U | VVM i praksis | Block 4 | 7.5 ECTS |
| NIGK22000U | Satellite Image Processing and Analysis in the Big Data Era | Block 4 | 7,5 ECTS |
| NIGK20001U | Rural-Urban Transformations in the Global South | Block 4 | 7.5 ECTS |
| NIGK15006U | Field and Methods Course in Geography and Geoinformatics | Block 1-5 | 15 ECTS |
| NIGK15022U | Project Course in Geography and Geoinformatics | Block 1-5 | 7.5 ECTS |
| NFKK14006U | Project in Practice | Block 1-5 | 15 ECTS |

### *6.3.3 Elective subject elements*

15 ECTS are to be covered as elective subject elements.

- All subject elements at MSc level may be included as elective subject elements in the MSc Programme.

- BSc subject elements corresponding to 15 ECTS may be included in the MSc Programme.
- Projects. See 6.3.4 Projects.

#### *6.3.4 Projects*

- Projects outside the course scope (PUK) may be included in the elective section of the programme by up to 15 ECTS. The regulations are described in Appendix 5 to the shared section of the curriculum.
- Projects in practice (PIP) may be included in the elective and/or restricted elective section of the programme with 15 ECTS. PIP may not exceed 15 ECTS in total on the restricted elective and elective section of the programme. PIP may be written as a combination of the restricted elective and elective section of the programme. The regulations are described in Appendix 4 to the shared section of the curriculum.
- Thesis preparation projects (PREP) may not be included in the elective section of the programme. The regulations are described in Appendix 6 to the shared section of the curriculum.

#### *6.3.5 Thesis*

The MSc Programme in Geography and Geoinformatics with a specialisation in Human Geography includes a thesis corresponding to 45 or 60 ECTS, as described in Appendix 2 to the shared curriculum. The thesis must be written within the academic scope of the programme.

#### *6.3.6 Academic mobility*

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Human Geography (thesis, 45 ECTS) is placed in block 3+4 of the first year.

The academic mobility for the MSc Programme in Geography and Geoinformatics with a specialisation in Human Geography (thesis, 60 ECTS) is placed in block 3+4 of the first year.

Academic mobility requires that the student follows the rules and regulations regarding pre-approval and credit transfer.

In addition, the student has the possibility to arrange similar academic mobility in other parts of the programme.

## 7 Exemptions

In exceptional circumstances, the study board may grant exemptions from the rules in the curriculum specified solely by the Faculty of Science.

## 8 Commencement etc.

### 8.1 Validity

This subject specific section of the curriculum applies to all students enrolled in the programme – see however Appendix 2.

### 8.2 Transfer

Students enrolled on previous curricula may be transferred to the new one as per the applicable transfer regulations or according to an individual credit transfer by the study board.

### 8.3 Amendment

The curriculum may be amended once a year so that any changes come into effect at the beginning of the academic year. Amendments must be proposed by the study board and approved by the Dean.

Notification about amendments that tighten the admission requirements for the programme will be published online at www.science.ku.dk one year before they come into effect.

If amendments are made to this curriculum, an interim arrangement may be added if necessary to allow students to complete their MSc Programme according to the amended curriculum.

## Appendix 1 The recommended academic progression

The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

**Table – Geoinformatics (thesis, 45 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Remote Sensing of the Bio-Geosphere | Advanced Geoinformatics | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Restricted elective | Thesis | | |
| | Restricted elective | | | |

**Table – Geoinformatics (thesis, 60 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Remote Sensing of the Bio-Geosphere | Advanced Geoinformatics | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Thesis | | | |

**Table – Physical Geography (thesis, 45 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Ecosystems, Climate and Climate Change | Glacial Geoscience | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Restricted elective | Thesis | | |
| | Restricted elective | | | |

**Table – Physical Geography (thesis, 60 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Ecosystems, Climate and Climate Change | Glacial Geoscience | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Thesis | | | |

**Table – Human Geography (thesis, 45 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Environment, Society and Development in the Global South | Urban and Rural Transformation: Uneven Geographies in the Global North | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Restricted elective | Thesis | | |
| | Restricted elective | | | |

**Table – Human Geography (thesis, 60 ECTS)**

| Period | Block 1 | Block 2 | Block 3 | Block 4 |
|---|---|---|---|---|
| 1st year | Environment, Society and Development in the Global South | Urban and Rural Transformation: Uneven Geographies in the Global North | Restricted elective | Restricted elective |
| | Restricted elective | Restricted elective | Elective | Elective |
| 2nd year | Thesis | | | |

# Appendix 2 Interim arrangements

The Shared Section that applies to all BSc, part-time MSc and MSc Programmes at the Faculty of Science applies to all students.

The interim arrangements below only consist of parts where the current curriculum differs from the rules and regulations that were previously valid. Therefore, if information about relevant rules and regulations are missing, it can be found in the curriculum above.

## 1 General changes for students admitted in the academic year 2022/23

Students admitted to the MSc Programme in the academic year 2022/23 must finish the programme as listed in the curriculum above with the following exceptions

### 1.1 Geoinformatics

**Restricted elective subject elements**

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Geoinformatics in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local Strategies | Discontinued* | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |
| NIGK22001U | Use of Stable Isotopes for Advanced Studies of Environmental and Soil Biogeochemical Processes | Discontinued* | 7.5 ECTS |

*See discontinued courses below

### 1.2 Physical Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Physical Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK22001U | Use of Stable Isotopes for Advanced Studies of Environmental and Soil Biogeochemical Processes | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Physical Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

### 1.3 Human Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local strategies | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

### 2 General changes for students admitted in the academic year 2021/22

Students admitted to the MSc Programme in the academic year 2021/22 must finish the programme as listed in the curriculum above with the following exceptions

### 2.1 Geoinformatics

**Restricted elective subject elements**

Up to 30 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Geoinformatics in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17007U | Advanced Soil Science and Isotope Geochemistry | Discontinued* | 7.5 ECTS |
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local Strategies | Discontinued* | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

## 2.2 Physical Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Physical Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17007U | Advanced Soil Science and Isotope Geochemistry | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Physical Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

## 2.3 Human Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local strategies | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

## 3 General changes for students admitted in the academic year 2020/21

Students admitted to the MSc Programme in the academic year 2020/21 must finish the programme as listed in the curriculum above with the following exceptions.

### 3.1 Geoinformatics

**Restricted elective subject elements**

Up to 30 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Geoinformatics in this curriculum (see above) | | | |
|---|---|---|---|
| NGEA09056U | Numerical Modelling in Fluvial, Coastal, Estuarine and Marine Environments | Discontinued* | 7.5 ECTS |
| NIGK17007U | Advanced Soil Science and Isotope Geochemistry | Discontinued* | 7.5 ECTS |
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local strategies | Discontinued* | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

### 3.2 Physical Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17013U | Ecosystems, Climate and Climate Change | Block 1 | 7.5 ECTS |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Geoinformatics in this curriculum (see above) | | | |
|---|---|---|---|
| NGEA09056U | Numerical Modelling in Fluvial, Coastal, Estuarine and Marine Environments | Discontinued* | 7.5 ECTS |
| NIGK17007U | Advanced Soil Science and Isotope Geochemistry | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Physical Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

### 3.3 Human Geography

**Compulsory subject elements**

All of the following subject elements are to be covered (15 ECTS):

| | | | |
|---|---|---|---|
| NIGK17008U | Environment, Society and Development | Discontinued* | 7.5 ECTS |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local strategies | Discontinued* | 7.5 ECTS |

*See discontinued courses below

**Restricted elective subject elements**

At least 15 ECTS are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "1" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | Discontinued* | 7.5 ECTS |

*See discontinued courses below

Up to 30 ECTS (Thesis 45 ECTS) or up to 15 ECTS (Thesis 60 ECTS) are to be covered as subject elements from the following list:

| Restricted elective subject elements offered as part of the list "2" of the specialisation in Human Geography in this curriculum (see above) | | | |
|---|---|---|---|
| NIGK14055U | Interdisciplinary Project Course | Discontinued* | 7.5 ECTS |
| NGEK10027U | Project Management and Planning | Discontinued* | 7.5 ECTS |

*See discontinued courses below

## 4 Discontinued courses

| Course Code | Course Title | ECTS | Interim arrangement |
|---|---|---|---|
| NIGK17007U | Advanced Soil Science and Isotope Geochemistry | 7.5 | The course was restricted elective in the academic year 2021/22, and 2020/21 on the specialisations in Geoinformatics and Physical Geography.<br><br>Offered for the last time: 2021/22. |
| NGEK10018U | Countryside Planning: Policies, Processes and Regulation | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21 on the specialisations in Geoinformatics and Human Geography.<br><br>Offered for the last time: 2022/23.<br>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |
| NIGK17008U | Environment, Society and Development | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21 on the specialisations in Geoinformatics and Physical Geography.<br><br>Offered for the last time: 2022/23. |
| | | | The course was compulsory in the academic year 2022/23, 2021/22 and 2020/21 on the specialisation in Human Geography.<br><br>Offered for the last time: 2022/23.<br><br>The course is replaced by NIGK23004U Environment, Society and Development in the Global South, 7.5 ECTS. |
| NIGK17017U | Glacial, Fluvial and Estuarine Geoscience | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21 on the specialisation in Geoinformatics.<br><br>Offered for the last time: 2022/23.<br>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |

| Course Code | Course Title | ECTS | Interim arrangement |
|---|---|---|---|
| | | | The course was compulsory in the academic year 2022/23, 2021/22 and 2020/21 on the specialisation in Physical Geography.<br><br>Offered for the last time: 2022/23.<br><br>The course is replaced by NIGK23007U Glacial Geoscience, 7.5 ECTS. |
| NIGK14055U | Interdisciplinary Project Course | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21on the specialisations in Geoinformatics, Physical Geography and Human Geography.<br><br>Offered for the last time: 2022/23.<br>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |
| NGEA09056U | Numerical Modelling in Fluvial, Coastal, Estuarine and Marine Environments | 7.5 | The course was a restricted elective course in the academic year 2020/21 and earlier on the specialisations in Geoinformatics and Physical Geography.<br><br>Offered for the last time: 2020/21.<br><br>The course is identical to NIGK21000U Numerical Modelling in Coastal, Estuarine and Marine Environments, 7.5 ECTS. |
| NGEK10027U | Project Management and Planning | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21 on the specialisations in Geoinformatics, Physical Geography and Human Geography.<br><br>Offered for the last time: 2022/23.<br>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |
| NIGK17015U | Transformation of Cities and Landscapes: Globalisation and Local Strategies | 7.5 | The course was a restricted elective course in the academic year 2022/23, 2021/22 and 2020/21on the specialisation in Geoinformatics.<br><br>Offered for the last time: 2022/23.<br>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |
| | | | The course was compulsory in the academic year 2022/23, 2021/22 and 2020/21 on the specialisation in Human Geography.<br><br>Offered for the last time: 2022/23.<br><br>The course is identical to NIGK23013U Urban and Rural Transformation: Uneven Geographies in the Global North, 7.5 ECTS. |

| Course Code | Course Title | ECTS | Interim arrangement |
|---|---|---|---|
| NIGK22001U | Use of Stable Isotopes for Advanced Studies of Environmental and Soil Biogeochemical Processes | 7.5 | The course was a restricted elective course in the academic year 2022/23 on the specialisations in Geoinformatics, and Physical Geography.<br><br>Offered for the last time: 2022/23. Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24. |

## Appendix 3 Description of objectives for the thesis

After completing the thesis, the student should have:

Knowledge about:

- Advanced theories and methodologies of the geographical field of study
- Scientific problems within the study programme's subject areas and the student's field(s) of specialisation.
- A suitable combination of methodologies/theories based on international research for use in his/her work with the problem formulation.
- A critical approach to natural, environmental or societal structures and changes and the process-related and spatial aspects of such changes.

Skills in/to:

- Take a scientific, problem-oriented and critical approach to geographically relevant issues within aspects of the nature, the environment or society.
- Work at a high scientific level within the geographical field of study and the student's field(s) of specialisation.
- Apply and critically evaluate theories/methodologies, including their applicability and limitations.
- Assess the extent to which the production and interpretation of findings/material depend on the theory/methodology chosen and the delimitation chosen.
- Discuss academic issues arising from the thesis.
- Draw conclusions in a clear and academic manner in relation to the problem formulation and, more generally, considering the topic and the subject area.
- Discuss and communicate the academic and social significance, if any, of the thesis based on ethical principles.

Competences in/to:

- Initiating and performing academic work in a research context.
- Identifying, proposing and preparing proposals to solving complex geographical problems in terms of theory, methodology and empiricism based on independently acquired knowledge at a high academic level.
- Integrating, discussing and putting into perspective theoretical, methodological and empirical choices, for example demonstrating reflective and critical thinking about the choices made and the possibilities and limitations of science in relation to a specific problem.
- Solving complex problems and carry out development assignments in a work context.