



# Programme-specific Section of the Curriculum for the MSc Programme in Geography and Geoinformatics at the Faculty of Science, University of Copenhagen 2017 (Rev. 2019)

## Contents

<b>1 Title, affiliation and language</b> .....	<b>2</b>
1.1 Title.....	2
1.2 Affiliation.....	2
1.3 Corps of external examiners.....	2
1.4 Language.....	2
<b>2 Academic profile</b> .....	<b>2</b>
2.1 Purpose.....	2
2.2 General programme profile.....	2
2.3 General structure of the programme.....	2
2.4 Career opportunities.....	3
<b>3 Description of competence profiles</b> .....	<b>3</b>
3.1 Geoinformatics.....	3
3.2 Physical Geography.....	4
3.3 Human Geography.....	5
<b>4 Admission requirements</b> .....	<b>6</b>
4.1 Applicants with a Bachelor's degree in Geography and Geoinformatics or Geography.....	6
4.2 Applicants with a related Bachelor's degree.....	6
4.3 Applicants with a Bachelor's degree within the field of science.....	6
4.4 Other applicants.....	6
4.5 Language requirements.....	6
4.6 Supplementary subject elements.....	6
<b>5 Prioritisation of applicants</b> .....	<b>7</b>
<b>6 Structure of the programme</b> .....	<b>7</b>
6.1 Geoinformatics.....	7
6.2 Physical Geography.....	9
6.3 Human Geography.....	11
<b>7 Exemptions</b> .....	<b>12</b>
<b>8 Commencement etc.</b> .....	<b>13</b>
8.1 Validity.....	13
8.2 Transfer.....	13
8.3 Amendment.....	13
<b>Appendix 1 Tables</b> .....	<b>14</b>
<b>Appendix 2 Interim arrangements</b> .....	<b>16</b>
<b>Appendix 3 Description of objectives for the thesis</b> .....	<b>18</b>

## 1 Title, affiliation and language

A shared section that applies to all BSc 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 with a specialisation in Geoinformatics leads to a Master of Science (MSc) in Geography and Geoinformatics with a specialisation in Geoinformatics with the Danish title: *Cand.scient.(candidatus/candidata scientiarum) i geografi og geoinformatik med en specialisering i geoinformatik*.

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

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

### 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. They are also able to understand and work with people from different scientific backgrounds, and act as bridge-builders between, e.g. science and social studies.

### 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:

- A PhD programme
- Holders of an MSc degree in Geography & Geoinformatics are able to apply geographical methodologies in a critical manner and communicate geographical subject matter and solution models both to other geographers and other collaboration partners and users.
- With their broadly based and often interdisciplinary education, they are capable of being involved in and managing complex tasks and projects.
- Also, they are able to understand and work with persons from other scientific backgrounds and bridge the gaps between, for example, the natural and social sciences.

## 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

On completion of the programme, an MSc in Geography and Geoinformatics with a specialisation in Geoinformatics has acquired the following:

#### Knowledge about:

Theory and concepts within GIS, GIScience, and remote sensing (Earth observation/EO).

Advanced use of geographical information systems (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.

Programming, Customization and Automation in GIS.

Different GIS/EO platforms.

Relevant GIS data models.

State-of-the-art environmental monitoring algorithms within optical and thermal infrared remote sensing.

Processing of data from registers and digital maps.

Advanced methods of mapping and visualizations.

#### Skills in/to:

- Perform advanced GIS/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.
- 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.
- Integrate EO data with other data in a GIS environment.
- Communicate results of research and projects orally and in writing.

#### Competences in/to:

Work at a high scientific and application-oriented level with state-of-the-art digital spatial data, analytical tools and GIS/EO software.

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.

### **3.2 Physical Geography**

On completion of the programme, an MSc in Geography and Geoinformatics with a specialisation in Physical Geography has acquired the following:

#### Knowledge about:

- The physical processes of ecosystems with relation to exchange of energy, water and carbon.
- Advanced theoretical background 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.
- The application of global climate models to spatio-temporal variations in the global climate.
- Major fluvial and estuarine landforms and their genesis, and their potential use as archives of environmental change.
- Methods and equipment used in the study of fluvial, estuarine and marine environments
- the potential effect of sea-level and climate change on landscape processes and geomorphology

#### 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
- 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
- Review a scientific subject on the basis of original scientific literature.
- Communicate results of research and projects orally and in writing.

#### Competences in/to:

- Explain the role of soils in an environmental context, with a special emphasis on climate change, changing land use, carbon cycles and pollution.
- Explain the relationship between climate, ecosystems and land-use in different climate zones.
- Sediment transport in fluvial, estuarine and marine environments
- Field methods used in studies of sediment transport in the fluvial, estuarine and marine environment
- The response of fluvial and estuarine landscapes to changes in sea level and climate.

### **3.3 Human Geography**

On completion of the programme, an MSc in Geography and Geoinformatics with a specialisation in Human Geography has acquired the following:

#### Knowledge about:

- Theoretical approaches to human geography and key conceptualisations of space and place including social, economic and development geography as well as human-environment interactions and spatial planning. There is a possibility to focus on the Global North or the Global South.
- Globalisation processes and their geographical implications from local to global scales including the dynamics of global value chains, transformation of cities, regions and landscapes, migration, urbanisation, rural-urban connections and land use change.
- The relationship between environmental change and human activity including resilience, vulnerability and adaptive processes.
- The social, political and economic processes and drivers of the location, distribution and growth of human activity
- The role of uneven geographical development including its implications for urban and regional development as well as rural and urban livelihoods.
- Spatial planning including governance and policy networks.

#### Skills in/to:

- Design and perform studies and research projects within the field of human geography
- Present theoretical arguments, conduct theoretical and empirical assessments and use the appropriate theories, methods and data to perform scientific analyses.
- Select appropriate quantitative and qualitative methodologies for problem-based research.
- Plan and perform field work and projects.
- Compile and analyse complex data from a variety of sources.
- Communicate results of research and projects orally and in writing

#### Competences in/to:

- Work at a high scientific and application-oriented level with a broad range of theoretical and methodological approaches to human geography
- Work with interdisciplinary dimensions of human geographical processes and their impacts and spatial aspects at different scales.
- Work, individually and in teams, with complex problems by organizing them into manageable projects.
- Work in and understand the implications of cross-cultural contexts.

## 4 Admission requirements

With a Bachelor's degree in Geography and Geoinformatics (*geografi og geoinformatik*) from the 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 before the application deadline during the first application period after the completion of the Bachelor's degree.

### 4.1 Applicants with a Bachelor's degree in Geography and Geoinformatics or Geography

Applicants with a Bachelor's degree in Geography and Geoinformatics from the University of Copenhagen or a Bachelor's degree in Geography from Danish universities are directly academically qualified for admission to the MSc Programme in Geography and Geoinformatics.

### 4.2 Applicants with a related Bachelor's degree

Applicants with a Bachelor's degree in the following are directly academically qualified for admission to the MSc programme in Geography and Geoinformatics:

- Surveying and Mapping or Urban, Energy and Environmental Planning from Aalborg University.
- International Development Studies (with a social science or natural-science basic programme) from Roskilde University.
- Natural resources from the University of Copenhagen.
- Environmental Engineering from the Technical University of Denmark.

### 4.3 Applicants with a Bachelor's degree within the field of science

Applicants with a Bachelor's degree within the field of science from the Faculty of SCIENCE at the University of Copenhagen may be admitted if their programme includes the following:

- Courses from the BSc Programme in Geography and Geoinformatics, 60 ECTS.

### 4.4 Other applicants

The Faculty may also admit applicants who, after an individual academic assessment, are deemed to possess educational qualifications equivalent to those required in 4.1-3.

### 4.5 Language requirements

Applicants must as a minimum document English language qualifications comparable to a Danish upper secondary school English B level or English proficiency corresponding to the tests and scores required. Accepted tests and required minimum scores are published online at [www.science.ku.dk](http://www.science.ku.dk).

### 4.6 Supplementary subject elements

The qualifications of an applicant to the MSc program 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 program 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 BSc programme which are to form part of the MSc programme to which the student has a legal right of admission (§9-courses) cannot be included in the overall assessment.

## 5 Prioritisation of applicants

If the number of qualified applicants to the programme exceeds the number of places available, applicants will be prioritised as follows:

- 1) Applicants with a Bachelor's degree in Geography and Geoinformatics from the University of Copenhagen seeking admission by way of direct extension of their completed BSc programme. Admitted on condition that there be legally entitled Bachelors for the programme.
- 2) Applicants with a Bachelor's degree in Geography and Geoinformatics from the University of Copenhagen or a Bachelor's degree in Geography from Danish universities.
- 3) Applicants with a related Bachelor's degree.
- 4) Applicants with a Bachelor's degree within the field of science.
- 5) Other applicants.

If the number of qualified applicants within a category exceeds the number of places available, applicants are then prioritised according to the following criteria (listed below in prioritised order):

- Highest number of ECTS gained in subject elements 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 21 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):

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

• 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
• NIGK15021U	Programming, Customization and Automation in GIS	Block 4	7.5 ECTS

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

Up to 15 ECTS are to be covered as subject elements from the following list (thesis, 60 ECTS)

NIGK17008U	Environment, Society and Development	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
• NIGK14055U	Interdisciplinary Project Course	Block 1	7.5 ECTS
• NIGK17015U	Transformation of Cities and Landscapes: Globalisation and Local Strategies	Block 2	7.5 ECTS
• NIGK17017U	Fluvial and Estuarine Geoscience	Block 2	7.5 ECTS
• NGEK10024U	Globalisation and Dynamics in Global Value Chains	Block 2	7.5 ECTS
• NGEK10018U	Countryside Planning: Policies, Processes and Regulation	Block 2	7.5 ECTS
• NIGK17016U	Environmental Soil Science	Block 2	7.5 ECTS
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 1+2	15 ECTS
• NGEA09056U	Numerical Modelling in Fluvial, Coastal, Estuarine and Marine Environment	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
• NGEK10027U	Project Management and Planning	Block 3	7.5 ECTS
• NIFK18003U	Thematic Course: Interdisciplinary Land Use and Natural Resource Management	Block 3	15 ECTS
• NGEA06026U	Lærestalernes fælles byplankursus	Block 3+4	15 ECTS
• NIGK15002U	Aerial and Near-field Remote Sensing	Block 4	7.5 ECTS
• NIGK17009U	Livelihoods and Rural-Urban Connections in the Global South	Block 4	7.5 ECTS
• NIGK15005U	Ecological Modelling	Block 4	7.5 ECTS
• NIGK17007U	Advanced Soil Science and Isotope Geochemistry	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
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 3+4	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 outside the course scope 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 may not exceed 15 ECTS in total on the restricted elective and elective section of the programme. Project in practice 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.

### **6.1.4 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.

### 6.1.5 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):

• NIGK17013U	Ecosystems, Climate and Climate Change	Block 1	7.5 ECTS
• NIGK17017U	Fluvial and Estuarine Geoscience	Block 2	7.5 ECTS

### 6.2.2 Restricted elective subject elements

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

• NIGK17014U	Coastal Geoscience	Block 1	7.5 ECTS
• NIGK17016U	Environmental Soil Science	Block 2	7.5 ECTS
• NGEA09056U	Numerical Modelling in Fluvial, Coastal, Estuarine and Marine Environment	Block 3	7.5 ECTS
• NIGK15027U	Surface Hydrology	Block 3	7.5 ECTS
• NIGK15005U	Ecological Modelling	Block 4	7.5 ECTS
• NIGK17007U	Advanced Soil Science and Isotope Geochemistry	Block 4	7.5 ECTS

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

Up to 15 ECTS are to be covered as subject elements from the following list (thesis, 60 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
• NIGK17008U	Environment, Society and Development	Block 1	7.5 ECTS

• NIGK14009U	Land Use Transitions in the Global South	Block 1	7.5 ECTS
• NIGK14056U	Climate Change and Water Resources	Block 1	7.5 ECTS
• NIGK14055U	Interdisciplinary Project Course	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
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 1+2	15 ECTS
• NIGK17012U	Remote Sensing in Land Science Studies	Block 3	7.5 ECTS
• NGEK10027U	Project Management and Planning	Block 3	7.5 ECTS
• NIGK15002U	Aerial and Near-field Remote Sensing	Block 4	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
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 3+4	15 ECTS
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 5+1	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 outside the course scope 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 may not exceed 15 ECTS in total on the restricted elective and elective section of the programme. Project in practice 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.

### ***6.2.4 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.

### ***6.2.5 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):

• NIGK17008U	Environment, Society and Development	Block 1	7.5 ECTS
• NIGK17015U	Transformation of Cities and Landscapes: Globalisation and Local Strategies	Block 2	7.5 ECTS

#### 6.3.2 Restricted elective subject elements

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

• 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
• NGEK10018U	Countryside Planning: Policies, Processes and Regulation	Block 2	7.5 ECTS
• NGEK11006U	International Migration - Flows, Networks and Diasporas	Block 3	7.5 ECTS
• NIGK17009U	Livelihoods and Rural-Urban Connections in the Global South	Block 4	7.5 ECTS

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

Up to 15 ECTS are to be covered as subject elements from the following list (thesis, 60 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
• NIGK14055U	Interdisciplinary Project Course	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
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 1+2	15 ECTS
• NIGK17012U	Remote Sensing in Land Science Studies	Block 3	7.5 ECTS
• NGEK10027U	Project Management and Planning	Block 3	7.5 ECTS
• NIFK18003U	Thematic Course: Interdisciplinary Land Use and	Block 3	15 ECTS

	Natural Resource Management		
• NGEA06026U	Lærestalernes fælles byplankursus	Block 3+4	15 ECTS
• NIGK15002U	Aerial and Near-field Remote Sensing	Block 4	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
• NIGK15006U	Field and Methods Course in Geography and Geoinformatics	Block 3+4	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 outside the course scope 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 may not exceed 15 ECTS in total on the restricted elective and elective section of the programme. Project in practice 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.

### **6.3.4. 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.

### **6.3.5 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](http://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 Tables

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

	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			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

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

	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			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

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

	Block 1	Block 2	Block 3	Block 4
1st year	Ecosystems, Climate and Climate Change	Fluvial and Estuarine Geoscience	Restricted elective	Restricted elective
	Restricted elective	Restricted elective	Elective	Elective
2nd year	Restricted elective	Thesis		
	Restricted elective			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

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

	Block 1	Block 2	Block 3	Block 4
1st year	Ecosystems, Climate and Climate Change	Fluvial and Estuarine Geoscience	Restricted elective	Restricted elective
	Restricted elective	Restricted elective	Elective	Elective
2nd year	Thesis			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

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

	Block 1	Block 2	Block 3	Block 4
1st year	Environment, Society and Development	Transformation of Cities and Landscapes: Globalisation and Local Strategies	Restricted elective	Restricted elective
	Restricted elective	Restricted elective	Elective	Elective
2nd year	Restricted elective	Thesis		
	Restricted elective			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

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

	Block 1	Block 2	Block 3	Block 4
1st year	Environment, Society and Development	Transformation of Cities and Landscapes: Globalisation and Local Strategies	Restricted elective	Restricted elective
	Restricted elective	Restricted elective	Elective	Elective
2nd year	Thesis			

Compulsory
  Restricted elective
  Elective
 | The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.

## Appendix 2 Interim arrangements

The Shared Section of the BSc and MSc Curricula for Study Programmes 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 2017/18

Students admitted to the MSc Programme in the academic year 2017/18 must finish the programme as listed in the curriculum above with the following exceptions

#### 1.1 Specialisations

Students admitted to the MSc Programme in the academic year 2017/18 are allowed to finish their programme with one of the specialisations that were outlined in the curriculum.

##### 1.1.1 Geoinformatics

###### Restricted elective subject elements

1) 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) |
|---|

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).

- |   |
|---|
| • Restricted elective subject elements offered as part of the list “2” of the specialisation in Geoinformatics in this curriculum (see above) |
|---|

• LFKK10246U	Thematic Course: Interdisciplinary Land Use and Natural Resource Management	Discontinued*	15 ECTS
--------------	---	---------------	---------

\*See course specific changes below

##### 1.1.2 Human Geography

###### Restricted elective subject elements

1) 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) |
|--|

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).

- |  |
|--|
| • Restricted elective subject elements offered as part of the list “2” of the specialisation in Human Geography in this curriculum (see above) |
|--|

• LFKK10246U	Thematic Course: Interdisciplinary Land Use and Natural Resource Management	Discontinued*	15 ECTS
--------------	---	---------------	---------

\*See course specific changes below



## 2 Course specific changes

<b>Discontinued course</b>	<b>Interim arrangement</b>
Thematic Course: Interdisciplinary Land Use and Natural Resource Management (LFKK10246U), 15 ECTS	The course was a restricted elective course in the academic year 2017/18 on the following specialisations: <ul style="list-style-type: none"><li>- Geoinformatics</li><li>- Human Geography</li></ul> The course was offered for the last time in the academic year 2017/18.  The course is identical to NIFK18003U Thematic Course: Interdisciplinary Land Use and Natural Resource Management, 15 ECTS.

## 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.