



**Programme-specific Section of the  
Curriculum for the MSc Programme in  
Nature Management  
(Landscape, Biodiversity and Planning)  
at the Faculty of Science, University of Copenhagen  
2012 (Rev. 2021)**

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## 1 Title and affiliation

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 Nature Management (Landscape, Biodiversity and Planning) leads to a Master of Science (MSc) in Nature Management (Landscape, Biodiversity and Planning) with the Danish title: *Cand.scient. (candidatus/candidata scientiarum) i naturforvaltning (landskab, biodiversitet og planlægning)*.

### 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 Agricultural Science (*jordbrugsvidenskab*).

### 1.4 Language

The language of this MSc Programme is English.

## 2 Academic profile

### 2.1 Purpose

The programme aims at education graduates with competences in both scientific methods and practical management skills in the fields of nature, biodiversity, spatial planning and landscape management.

After finishing the programme graduates are capable of managing biodiversity, natural areas, ecosystems, entire landscapes, and rural districts based on integrative knowledge on natural and social sciences. Graduates are able to formulate sound, balanced and sustainable solutions on management challenges related pertaining to species, ecosystems and landscapes. Graduates can manage humans as owners and users or other stakeholders of areas and formulate plans at all levels. Graduates are qualified for academic jobs within public administration, private consultancy, extension service, research, and education.

### 2.2 General programme profile

The programme integrates natural sciences with spatial planning, sociology and law. The graduates must act in a management and planning system targeted at species, ecosystems and cultural landscapes. The management systems comprise three components:

- i) The environment, landscapes, and ecosystems as specific physical and biological phenomenon's.
- ii) Humans as owners and users of these phenomenon's.
- iii) The regulation of the human interference with the environment as it is implemented through legislation, planning, economic incentives and communication. The graduates must have insight in the relationships between the three components, i.e. human impact on the environment, the limits and opportunities created by the environment, visions and strategies for the environment, monitoring, implementation of plans and the human impact on the regulatory system.

The concept of management employed at the programme is to define a framework for the human interference with the environment. Management is consequently understood as decisions regarding use and protection of species, ecosystems and landscapes, and the ecological, technological, legal, economic, social and planning-related frameworks for these decisions. Decisions will range in scale from individual land owners' decisions regarding land use, to international conventions, species, ecosystems, and landscapes. Land owners' and users' direct impact on the environment is denoted management in practice, whereas design, implementation and evaluation of legislation, policies and plans are denoted public management.

Ecology, restoration, conservation, human behaviour and planning are the key subject areas of the programme. The graduates have knowledge about the concepts of sustainability and are able to bridge concepts of sustainability and nature management in practice.

## **2.3 General structure of the programme**

The MSc Programme is set at 120 ECTS.

There are no defined specialisations in this programme.

## **2.4 Career opportunities**

The MSc Programme in Nature Management (Landscape, Biodiversity and Planning) qualifies students to become professionals within business functions and/or areas such as:

- The public sector. The public sector comprises e.g. nature and landscape management in municipalities and governmental agencies, and international bodies such as the UN and the EU.
- The private sector. The private sector comprises consultancy companies and extension service.
- Research and education institutions.
- A PhD programme
- Graduates may also be employed in practical management in landscapes, parks and other sectors with general management and project management, and planning.

## **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 Generic competence profile**

On completion of the programme, an MSc in Nature Management (Landscape, Biodiversity and Planning) has acquired the following regardless of the chosen specialisation:

Knowledge about:

- Biological diversity, in particular species diversity, and its organization locally, regionally, and globally.
- The functioning, dynamics and changes of natural and human influenced terrestrial and aquatic ecosystems on system, landscape and catchment scale, regionally and globally.
- Provision of ecosystems services such as clean water, carbon sequestration, biodiversity, recreation, cultural values, and maintenance of soil functioning.
- The structure, function and changes of cultural landscapes.
- The different attitudes among humans to the use and management of nature, landscapes and biodiversity and an understanding of the concepts of sustainability.

- The legal framework within which nature management operates.
- The rationale behind national, European and global initiatives to conserve and manage nature and biodiversity.

#### Skills in/to:

- Perform analyses of fluxes of carbon, nitrogen, phosphorus and other elements on ecosystem and landscape level.
- Perform qualitative and quantitative assessments and evaluations of nature, landscape and biodiversity status and qualities, and use of indicators, e.g. for monitoring programs.
- Use science-based knowledge to describe, manage and evaluate ecological restoration projects.
- Use relevant upto-date tools.
- Identify and designate areas for various activities, protected areas and technical installations.
- Formulate aims and guiding principles and solve conflicts for use and protection of nature, biodiversity and landscapes.
- Employ theories, principles and scientific data to individually formulated hypotheses and theories.
- Formulate aims and guiding principles for use and protection of nature, biodiversity and landscapes, and evaluate the possibilities to manage and restore populations, habitats and landscapes.
- Identify, analyse, assess and communicate present and potential natural values and landscape values at the interface between biological science and sociology, politics, planning and economics including sustainable use of nature and landscapes.
- Communicate ideas and knowledge precisely orally and written to people within and outside the scientific community.
- Choose and use suitable information and communication technology in all steps of a work process.
- Communicate opinions of different interest groups in relation to the use of nature and landscape as a framework for a number of different functions or services based on analyses of various perceptions of nature.
- Discuss human needs and interests as point of departure for spatial planning as a tool to balance general interests of the society and individual interests.
- Discuss ecological and social sustainability aspects of the relationships between man and nature including use of resources, and promote other interests than production, balancing interests among user groups.

#### Competences in/to:

- Work in a problem based trans-disciplinary project organisation.
- Work quantitatively with environmental impacts, nature quality and biodiversity.
- Operate in an environment of different stakeholders, and cooperate and discuss with relevant stakeholders aiming to reach consensus and formulate solutions.
- Manage complex and unpredictable development scenarios within nature, biodiversity and landscape management.
- Initiate and perform individual and collective work processes.
- Work independently and goal-oriented.
- Assess and structure own learning processes.
- Continuously acquire updated knowledge by use of scientific literature within the relevant disciplines.
- Understand and interpret literature within a scientific, management and political context.

## 4 Admission requirements

There is no BSc Programme with reserved access for this programme.

### 4.1 Applicants with a closely related Bachelor's degree

The following applicants are directly academically qualified for admission to the MSc programme in Nature Management:

- Applicants with a Bachelor's degree in Natural Resources, Geography and Geoinformatics, Biology or Landscape Architecture from the University of Copenhagen.
- Applicants with a Professional Bachelor's degree in Forest and Landscape Engineering from the University of Copenhagen
- Applicants with a Professional Bachelor's degree in Urban Landscape Engineering from the Zealand Institute of Business and Technology.

### 4.2 Applicants with a Bachelor's degree in Biology or Environmental Science

Applicants with a Bachelor's degree in Biology or Environmental Science from other Danish, Nordic or international universities are qualified for admission to the MSc Programme, if their Bachelor's degree includes the following:

- Ecology – at least 7.5 ECTS.  
Ecology: Scientific competences within and knowledge of the structure and function of ecosystems. Relevant academic areas including e.g. plant physiology, population and community ecology, systems ecology, soil science, and biogeochemistry.
- Species knowledge – at least 7.5 ECTS.  
Species knowledge: Fundamental knowledge and competences within botany or zoology.

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

Applicants with a Bachelor's degree from the University of Copenhagen or other Danish, Nordic or international universities may also be admitted if their programme includes the following:

- Ecology – at least 7.5 ECTS.  
Ecology: Scientific competences within and knowledge of the structure and function of ecosystems. Relevant academic areas including e.g. plant physiology, population and community ecology, systems ecology, soil science, and biogeochemistry.
- Species knowledge – at least 7.5 ECTS.  
Species knowledge: Fundamental knowledge and competences within botany or zoology.

### 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 Subclauses 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 (§12-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 Natural Resources, Biology, Landscape Architecture or a Professional Bachelor's degree in Forest and Landscape Engineering from the University of Copenhagen and applicants with a Professional Bachelor's degree in Urban Landscape Engineering from the Zealand Institute of Business and Technology.
- 2) Applicants with a Bachelor's degree in Geography and Geoinformatics from the University of Copenhagen or a Bachelor's degree in Biology or Environmental Science from other Danish or international universities.
- 3) Other applicants.

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

- Average grade and relevance of qualifying bachelor degree.

## 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 Programme components

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

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

#### 6.1.1 Compulsory subject elements

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

• NBIK12007U	Thematic Course 1: Ecology and Management of Nature and Semi-Nature Areas	Block 1	15 ECTS
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### 6.1.2 Restricted elective subject elements

45 ECTS are to be covered as subject elements from following three lists.

1) 15 ECTS are to be covered by one of the following subject elements:

• LNAK10100U	Thematic Course II: Rural Landscape - Management and Planning	Block 4	15 ECTS
• NIGK14057U	Temakursus IIB: Rurale landskaber - Forvaltning og Planlægning	Block 4	15 ECTS

2) 7.5 ECTS must be covered by subject elements from the following list:

• NIFB14009U	Miljø- og planlovgivning - natur og vand (Bachelor level)	Block 2	7.5 ECTS
• NIFB14005U	EU Law – Environment, Agriculture and Food (Bachelor level)	Block 3	7.5 ECTS
• LNAK10072U	Global Environmental Governance	Block 3	7.5 ECTS

3) 22.5 ECTS are to be covered by subject elements from the following list:

• NPLK14021U	Soil and Water Pollution, Concepts and Theory	Block 1	7.5 ECTS
• LNAK10099U	Biodiversity in Urban Nature	Block 1	7.5 ECTS
• NIGK18000U	Biodiversity in Managed Forests	Block 1	7.5 ECTS
• NIFK16002U	Ethics, Environment and Society	Block 1	7.5 ECTS
• NIGK14052U	Landscape and Restoration Ecology	Block 2	7.5 ECTS
• LNAK10073U	Rural Landscapes: Methods and Approaches in Policy Making	Block 2	7.5 ECTS
• LNAK10081U	Nature Perception – Theories and Methods for Investigation	Block 2	7.5 ECTS
• NBIK12003U	Conservation Biology	Block 2	7.5 ECTS
• LFKK10265U	Conflict Management	Block 2	7.5 ECTS
• SGBK20002U	Macro Ecology and Community Ecology	Block 2	7.5 ECTS
• NIGK13007U	Ecosystem Services from Forests and Nature	Block 2	7.5 ECTS
• NIGK16000U	Applied Ecosystem Ecology	Block 3	7.5 ECTS
• NIFK14029U	Motivation and Pro-Environmental Behaviour -Managing Change	Block 3	7.5 ECTS
• LNAK10066U	Planlægning i det åbne land	Block 3	7.5 ECTS
• NIGK14002U	Geographical Informations Systems (GIS)	Block 3	7.5 ECTS
• NIGK17000U	Land Use and Environmental Modelling	Block 3	7.5 ECTS
• NIGK14010U	Outdoor Recreation: Planning and Management	Block 3	7.5 ECTS
• NFKY13000U	Climate Change Mechanisms and Tipping Points	Block 3	7.5 ECTS
• SGBK20011U	International Nature Conservation	Block 5	7.5 ECTS

### 6.1.3 Elective subject elements

15 ECTS (thesis, 45 ECTS) or 30 ECTS (thesis, 30 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 7.5 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 be included in the elective section of the programme by up to 15 ECTS. The regulations are described in Appendix 4 to the shared section of the curriculum.

Thesis preparation projects may be included in the elective section of the programme with up to 15 ECTS. The regulations are described in Appendix 6 to the shared section of the curriculum.

Projects outside the course scope, projects in practice and thesis preparation projects may not exceed 45 ECTS of the programme.

#### **6.1.4 Thesis**

The MSc Programme in Nature Management (Landscape, Biodiversity and Planning) includes a thesis corresponding to 30 or 45 ECTS as described in Appendix 2 to the shared curriculum. The thesis must be written full time and the topic of the thesis must be 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 Nature Management (Landscape, Biodiversity and Planning) with a thesis corresponding to 30 ECTS is placed in block 1+2 of the 2<sup>nd</sup> 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 – MSc Programme in Nature Management (Landscape, Biodiversity and Planning) (thesis 30 ECTS)**

	Block 1	Block 2	Block 3	Block 4
1st year	Thematic course I: Ecology and Management of Nature and Semi-Nature Areas	Restricted elective	Restricted elective	Restricted elective
		Restricted elective	Restricted elective	
2nd year	Elective	Elective	Thesis	
	Elective	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 – MSc Programme in Nature Management (Landscape, Biodiversity and Planning) (thesis 45 ECTS)**

	Block 1	Block 2	Block 3	Block 4
1st year	Thematic course I: Ecology and Management of Nature and Semi-Nature Areas	Restricted elective	Restricted elective	Restricted elective
		Restricted elective	Restricted elective	
2nd year	Elective	Thesis		
	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.

## 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.

#### Restricted elective subject elements

22.5 ECTS must be covered by subject elements from the following list:

<ul style="list-style-type: none"> <li>Restricted elective subject elements offered as part of the list “3” in this curriculum (see above)</li> </ul>			
<ul style="list-style-type: none"> <li>NIGK15003U</li> </ul>	Conservation Management of Protected Natural and Semi-natural Habitats	Discontinued*	7.5 ECTS

\*See course specific changes below.

### 2 Course specific changes

Discontinued course	Interim arrangement
Conservation Management of Protected Natural and Semi-natural Habitats (NIGK15003U), 7.5 ECTS	<p>The course was a restricted elective course in the academic year 2017/18.</p> <p>Offered for the last time: 2017/18 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2018/19.</p>
International Nature Conservation (NNMK14000U), 7.5 ECTS	<p>The course was a restricted elective course in the academic year 2017/18.</p> <p>Offered for the last time: 2017/18</p> <p>The course is identical to SGBK20011U International Nature Conservation.</p>
Macro Ecology and Community Ecology (NBIK15015U), 7.5 ECTS	<p>The course was restricted elective courses on the specialisation in Soil, Water and Biodiversity in the academic year 2019/20</p> <p>The course was offered for the last time in the academic year 2019/20. The course is identical to SGBK20002U Macro Ecology and Community Ecology.</p>

## Appendix 3 Description of objectives for the thesis

After completing the thesis, the student should have:

### Knowledge about:

- Scientific problems in relation to the thesis subject area.
- Theories and models supporting the thesis subject area.

### Skills in/to:

- Identify scientific problems within the study programme's subject areas.
- Summarise a suitable combination of methodologies/theories based on international research for use in his/her work with the problem formulation.
- Discuss theories/models on the basis of an organised value system and with a high degree of independence.
- 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.

If the thesis includes experimental content/own data production, the student will also be able to:

- Substantiate the idea of conducting experimental work/producing own data in order to shed light on the topic as formulated in the problem formulation.
- Process data through a choice of academic analysis methods and present findings objectively and in a concise manner.
- Assess the credibility of own findings based on relevant data processing.

### Competences in/to:

- Initiating and performing academic work in a research context.
- Solving complex problems and carrying out development assignments in a work context.