Programme-specific Section of the Curriculum for the MSc Programme in Sustainable Forest and Nature Management at the Faculty of Science, University of Copenhagen 2010 (Rev. 2018)

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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 Sustainable Forest and Nature Management SUFONAMA – Forest Ecosystems, Nature and Society leads to a Master of Science (MSc) in Forest, Ecosystems, Nature and Society with the Danish title: Cand. scient. i bæredygtig skov- og naturforvaltning.

The programme leads to a double degree.

1.2 Affiliation
The programme is affiliated with the Study Board of Natural Resources, Environment and Animal Science, 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 main objective of the programme is to educate graduates qualified for coping with the huge challenges in contemporary forest and nature management in countries where the forest-nature paradigm has shifted in recent years. The aim is to provide the graduates with a firm theoretical foundation and understanding of the new paradigm in forest and nature management, including the social and environmental contexts, ability to apply theory and to implement and sustain an integrated management of forest and nature areas, and intercultural competences to function professionally in a complex international context of conflicting aims and interests. During their studies, the students are extensively exposed to realities of the sustainable forest and nature management – both during the compulsory Joint Summer Module in one of the consortium countries and in relation to thesis work.

2.2 General programme profile
The programme evolves around finding the balance between the sustainability of organic systems and human requirements. The programme is based on three areas: 1) Knowledge and understanding of the function, the productive opportunities and the ecological sustainability of biological systems; 2) knowledge of economics, financial management and optimization as well as methodologies for planning and considering interests; 3) knowledge of, tools and skills for handling ‘the human dimension’ – general management, project management, negotiation and conflict management. Knowledge within these three areas will enable the graduate to develop professionally sound solutions that can be put into action in a complex world of conflicting aims and interests.

The programme is characterised by strategic work with a long-time perspective. The long-time perspective is necessary for utilization of forests and natural areas. At the same time, the utilization must be socially acceptable and in line with developments in society. Because of the long time perspective, sustainability naturally becomes a general and controlling concept. Through the compulsory courses, the graduate gains an insight into a number of general tools
to help do this and applies these in connection with case studies on forest and natural resources. These aspects and tools are equally relevant to strategic management within private companies in other lines of business.

Sustainable Forest and Nature Management 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 Sustainable Forest and Nature Management consists of the following elements:

- Specialisation 1, 60 ECTS.
- Specialisation 2, 60 ECTS, including the thesis.

The student must choose one of the following specialisations:

- Specialisation 1: University of Copenhagen
- Specialisation 1: Bangor University
- Specialisation 1: University of Göttingen
- Specialisation 2: Management of Forest and Nature for Society (University of Copenhagen)
- Specialisation 2: Conservation Biology and Land Management (Bangor University)
- Specialisation 2: Forest and Nature Management in Changing Climate (University of Göttingen)
- Specialisation 2: Forest Management in Scandinavia and the Baltic Region (Alnarp)
- Specialisation 2: Mountain Forestry and Watershed Management (University of Padova)

2.4 Career opportunities
Students completing the MSc Programme in Sustainable Forest and Nature Management will be well prepared to either pursue a career in research by taking a PhD or by applying for a job in the private or public sector, e.g. ministry, government or county agency, district forest and nature office, forest and nature association, consultancy, NGO, ENGO, or international organisation. The programme provides students with a number of central control and management tools and a broad range of economic, ecological and social competences. This forms a good foundation for a possible management career in the private or public sector. The programme is typically aimed at positions as academic employees or as managers in private, commercial companies, in national or international organisations relating to the utilisation of forests and other natural resources, or in a public authority office/agency/company working with area management.

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 Sustainable Forest and Nature Management has acquired the following:

**Knowledge to:**

- Describe the structure, development and variation of ecosystems as well as understand the causes and effects in a scientific perspective.
- Identify possibilities/limitations and the ecological tolerance in relation to people’s utilisation of forests and nature.
• Understand interactions between physical and biological environments of forests and nature areas.
• Understand the implications of climate change on social and environmental systems related to forest and nature areas.
• Explain the principles of sustainable utilisation, protection and stewardship of forests and other semi-natural areas.
• Summarise economic and policy theory and demonstrate general knowledge of the planning tools utilised in the economic management of forests and nature.
• Reflect on the concept of sustainable forest and nature management.
• Reflect on the societal and commercial consequences of legislation, regulations and principles of operation in national and international contexts.
• Explain key theories and methodologies for management, planning, negotiation and conflict management on the basis of the opinions, interests and values of people.
• Reformulate theories, principles and research findings to independently form hypotheses and theories.

Skills in/to:
• Develop, quantify and apply theoretical and practical models for the productive functions of forests and natural resources – material as well as immaterial.
• Apply economic theory and utilise planning tools to analyse and model the welfare and business economic value production of forests and natural resources.
• Assess the possibilities and limitations of theories and methodologies.
• Tackle problems by collecting, analysing and evaluating appropriate qualitative and quantitative information and using it creatively.
• Develop long-term strategies, operational targets and concrete plans for sustainable utilisation and protection of forests and other green resources while bearing in mind social, ecological and economic objectives and limitations.
• Practise economic, dynamic and holistic management planning.
• Formulate, plan and implement projects.
• Incorporate negotiation and conflict resolution strategies and models in the role as manager, consultant or facilitator.
• Communicate professional problems and solutions – both orally and in writing – to different target groups.

Competences in/to:
• Turn demands on our natural surroundings into concrete actions and projects based on a natural science foundation.
• Transfer theories and principles to new situations and assume independent and professional responsibility.
• Manage operations and development tasks in the framework set out by society (legislation, regulations, realities).
• Display the competence, key skills, behaviour and attitudes required in a professional working life.
• Design decision-making, negotiation and collaboration processes that bear in mind the power and interests of the players. Lead and manage such processes based on knowledge of the interactions in relation to negotiation and conflict.
• Transfer problem analysis, theories, empirical data collection and analysis into field based reports to meet the objectives of multitudinous stakeholders.
• Collaborate constructively with others in interdisciplinary and intercultural contexts.
• Independently evaluate and structure own learning processes and assume responsibility for own professional development with a view to life-long learning.
• Critically apply relevant qualitative and quantitative data collection methods
• Appropriate use of standard analyses to address sustainable forest and nature management problems.
• Participate in academic discussions of issues related to sustainable forest and nature management.
• Display the competences, key skills, behaviour and attitudes required in an interdisciplinary and intercultural professional working life.
• Communicate clearly, concisely and confidently in spoken and written formats with both academic audiences and in public discussions with non-specialists.
• Manage research, advisory and management activities in relation to sustainable forest and nature management.
• Carry out research, advisor and/or policy related activities related to sustainable forest and nature management, in international development organisations, government bodies, non-governmental organisations, development agencies, industry bodies and research institutions.

3.2 Specialisation 2: Management of Forest and Nature for Society (University of Copenhagen)
On completion of the programme, an MSc in Sustainable Forest and Nature Management with a specialisation in Management of Forest and Nature for Society has acquired the following:

Knowledge about:
• Describe on an advanced level the economic principles that underpin sustainable management of forests and nature and the translation of these principles into practical guidelines.
• The appropriate use of standard economic analyses to address sustainable forest and nature management problems.
• Explain and integrate the role of forests and nature to owners and society into sustainable management plans.
• Reflect upon the resources required for forest and nature management and the effective utilisation of those resources within practical and legislative frameworks.

Skills in/to:
• Formulate a hypothesis, plan and execute research or development work, evaluate the outcomes and draw valid conclusions in relation to economic management of forest and nature areas.
• Apply subject knowledge and understanding to address familiar and unfamiliar problems within forest and nature management.
• Construct reasoned arguments to support a position on the implications and the potential impacts of scientific advances and appreciate the validity of different points of view.
• Analyse, synthesise and assimilate diverse information in a critical manner.
• Communicate about a subject matter clearly, confidently and with accuracy
• Synthesize and building a holistic view.
• Demonstrate a capacity for critical analysis and enterprise.
• Record, collate, analyse and report data collected in the laboratory or field.
• Access and interpret primary and secondary sources of information.

Competences in/to:
• Undertake field and/or laboratory investigations in a responsible, safe and ethical manner.
• Translate information into instructions that can be given to others at an appropriate level.
• Write management plans to meet defined objectives.
- Construct scenarios of possible futures and consider their importance in current management.
- Work both independently and in collaboration with others.
- Take responsibility for self-managed learning and personal/professional development.

3.3 Specialisation 2: Conservation Biology and Land Management (Bangor University).
On completion of the programme, an MSc in Sustainable Forest and Nature Management with a specialisation in Conservation Biology and Land Management has acquired the following:

**Knowledge about:**
- The principles of economic, social and environmental principles that underpin conservation and land management and the ability to synthesis this knowledge for sustainable use of countryside.
- Explain and describe the ecological systems; principles and theories relating to process and structure of plants; invertebrates and vertebrates; genetics and evolution; community and population ecology.
- The relationship between components of land use systems with particular emphasis on the impact of/on farming enterprises and their relationship to policy Frameworks.
- The nature of scientific investigation and the application of results into practice to help environmental conservation professionals with their work.
- Systems theory and the integration of knowledge across disciplines in conservation and natural resource management.
- The theory and practical challenges of conservation biology.
- The concept of evidence-based conservation which concerns the interface between conservation science, policy and practice.
- The resources required for conservation and land management and the effective utilisation of those resources within practical and legislative frameworks.
- Explain systems theory and the integration of knowledge across disciplines in conservation and natural resource management.
- Summarise the theory and practical challenges of conservation biology.
- Understand the concept of evidence-based conservation which concerns the interface between conservation science, policy and practice.

**Skills in/to:**
- Formulate a hypothesis, plan and execute research or development work, evaluate the outcomes and draw valid conclusions.
- Transfer biological principles that underpin conservation and sustainable management of the countryside into practical guidelines.
- Apply subject knowledge and understanding to address familiar and unfamiliar problems.
- Analyse, synthesise and assimilate diverse information in a critical manner.
- Set quantifiable objectives for site based conservation within a management plan for protected sites using Conservation Management Systems methodology and GIS mapping.
- Construct reasoned arguments to support a position on the implications and the potential impacts of scientific advances and appreciate the validity of different points of view.
- Communicate about a subject matter clearly, confidently and with accuracy
- Demonstrate a capacity for critical analysis and enterprise.
- Record, collate, analyse and report data collected in the laboratory or field.
- Access and interpret primary and secondary sources of information.
Competences in/to:
- Work both independently and in collaboration with others.
- Take responsibility for self-managed learning and personal/professional development.
- Undertake filed and/or laboratory investigations in a responsible, safe and ethical manner.
- Translate information into instructions that can be given to others at an appropriate level.
- Write management plans for conservation projects to meet defined objectives.
- Construct scenarios of possible futures and consider their importance in current management.

3.4 Specialisation 2: Forest and Nature Management in Changing Climate (University of Göttingen)
On completion of the programme, an MSc in Sustainable Forest and Nature Management with a specialisation in Forest and Nature Management in Changing Climate has acquired the following:

Knowledge about:
- Contexts of the global climate system and scientific basis of climate and climate change and their application to nature management systems.
- The appropriate use of management systems in nature management and their adaption to different climate change scenarios.
- Monitoring and management of different natural resources in the temperate forests and the transfer into the global context.

Skills in/to:
- Formulate a hypothesis, plan and execute research or development work, evaluate the outcomes and draw valid conclusions in relation to timber and non-timber forest product use and processing.
- Apply subject knowledge and understanding to address familiar and unfamiliar problems.
- Analyse, synthesise and assimilate diverse information in a critical manner.
- Construct reasoned arguments to support a position on the implications and the potential impacts of scientific advances and appreciate the validity of different points of view.
- Communicate about a subject matter clearly, confidently and with accuracy.
- Demonstrate a capacity for critical analysis and enterprise.
- Record, collate, analyse and report data collected in the laboratory or field.
- Access and interpret primary and secondary sources of information.

Competences in/to:
- Work both independently and in collaboration with others.
- Take responsibility for self-managed learning and personal/professional development.
- Undertake filed and/or laboratory investigations in a responsible, safe and ethical manner.
- Translate information into instructions that can be given to others at an appropriate level.
- Write management plans for conservation projects to meet defined objectives.
- Construct scenarios of possible futures and consider their importance in current management.
3.5 Specialisation 2: Forest Management in Scandinavia and the Baltic Region (Alnarp)

On completion of the programme, an MSc in Sustainable Forest and Nature Management with a specialisation in Scandinavia and the Baltic Region has acquired the following:

Knowledge about:
- Contemporary industrial forestry in Scandinavia and the Baltic region, objectives, strategies and organisations.
- Dependency between socioeconomic settings and values of non-timber products and other ecosystem services.
- Strategies for conservation and enhancement of nature values.
- Principles and methods for long-term strategic planning of multifunctional forestry.
- Processes behind the development of national and international forest policies.

Skills in/to:
- Formulate a hypothesis, plan and execute research or development work, evaluate the outcomes and draw valid conclusions in relation to Scandinavian and Eastern European forestry.
- Ability to compare and analyse differences in forestry practices between the countries, against the background of similar natural settings for forestry but diversity of social norms, management traditions, approaches to policy-making, etc.
- Transfer scientific research on silvicultural measures into practical forestry and evaluate the effects of actions.
- Apply subject knowledge and understanding to address familiar and unfamiliar problems.
- Analyse, synthesise and assimilate diverse information in a critical manner.
- Construct reasoned arguments to support a position on the implications and the potential impacts of scientific advances and appreciate the validity of different points of view.
- Communicate about a subject matter clearly, confidently and with accuracy.
- Synthesize and building a holistic view.
- Demonstrate a capacity for critical analysis and enterprise.
- Record, collate, analyse and report data collected in the laboratory or field.
- Use GIT (Geographical Information Technology) to present results from different assignments.
- Access and interpret primary and secondary sources of information.

Competences in/to:
- Work both independently and in collaboration with others.
- Take responsibility for self-managed learning and personal/professional development.
- Undertake filed and/or laboratory investigations in a responsible, safe and ethical manner.
- Translate information into instructions that can be given to others at an appropriate level.
- Write management plans to meet defined objectives.
- Construct scenarios of possible futures and consider their importance in current management.

3.6 Specialisation 2: Mountain Forestry and Watershed Management (Padova)

On completion of the programme, an MSc in Sustainable Forest and Nature Management with a specialisation in Mountain Forestry and Watershed Management has acquired the following:
Knowledge about:

- Knowledge and through understanding of the main terrestrial concepts, international framework and practical tools related to principles of functioning and management of mountain forest. Forest economics and environmental policy, forest hydrology, soil conservation, flood risk and river restoration.
- Structure, dynamic and management of mountain forests, multifunctional role of responsible management of forests according to the institutional setting.
- Forest economics and environmental policies related to mountain areas: the economic roles of forestry and market structure and trends of mountain areas; environmental economics; economic analysis of investments in mountain areas; actors and cross-sectoral relations in mountain policies development and implementation at international and European levels.
- Forest hydrology and flood risk management; hydrological processes in forested basins, rainfall-runoff modeling, integrated risk management of floods, social vulnerability related to flood impacts in mountain environments.
- Explain stream restoration and erosion control in mountain basins; fluvial morphology identification, sediment dynamics and sustainable tools against floods, inundation and terrain stability in mountain watersheds.
- Broad background on cable crane transportation, forest cable crane planning, mounting and operating.

Skills in/to:

- Formulate a hypothesis, plan and execute research or development work, evaluate the outcomes and draw valid conclusions in relation to mountain forestry and watershed management.
- Ability to analyse, compare and evaluate different effects of forestry practices and watershed management actions from a silvicultural, engineering, economic and management perspective.
- Transfer scientific research on silvicultural measures into practical forestry and evaluate the effects of actions.
- Apply subject knowledge and understanding to address familiar and unfamiliar problems.
- Analyse, synthesise and assimilate diverse information in a critical manner.
- Construct reasoned arguments to support a position on the implications and the potential impacts of scientific advances and appreciate the validity of different points of view.
- Communicate about a subject matter clearly, confidently and with accuracy.
- Synthesize and building a holistic view.
- Demonstrate a capacity for critical analysis and enterprise.
- Record, collate, analyse and report data collected in the laboratory or field.
- Access and interpret primary and secondary sources of information.

Competences in/to:

- Work both independently and in collaboration with others Take responsibility for self-managed learning and personal/professional development Undertake filed and/or laboratory investigations in a responsible, safe and ethical manner.
- Understand the role of forests and nature to owners and society (in a wide context), and evaluate options for improving the role through sustainable forest and nature management.
- Prepare and appraise forested watersheds and nature management plans / projects to meet the objectives of stakeholders.
- Translate information into instructions that can be given to others at an appropriate level.
• Write management plans to meet defined objectives.
• Construct scenarios of possible futures and consider their importance in current management.

4 Admission requirements
In accordance with the Erasmus Mundus programme requirements, the SUFONAMA Consortium has developed joint admission requirements and procedures in respect of national legislations.

4.1 Applicants with a related Bachelor’s degree
Applicants with a Bachelor’s degree in a relevant area e.g. forestry, agriculture, biology, geography and economics are directly academically qualified for admission to the MSc Programme.

4.2 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 Subsection 4.1.

4.3 Language requirements
4.2.1 Applicants from Nordic universities
Applicants with a Bachelor’s degree from Nordic universities must as a minimum document English language qualifications comparable to a Danish upper secondary school English B level.

4.2.2 Non-Nordic applicants
Applicants with a non-Nordic Bachelor’s degree must be able to document English proficiency corresponding to an IELTS test score of minimum 6.5 or a TOEFL test score of minimum 83 (Internet-based).

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:

Eligible applications are assessed using the following five selection criteria:
• Academic excellence.
• Language skills.
• Recommendations.
• Relevant work experiences.
• Personal motivation.

Each criterion is assessed using a scale of 1-5 (5 = excellent, 4 = very good, 3 = good, 2 = average, 1 = poor). Evaluation always starts with the academic excellence criterion: this must by at least 4 for evaluation to proceed. Evaluation always stops if any other criterion is assessed at less than 3.

The following weights on each criterion are used:
• Academic excellence (60%)
• Recommendation (15%)
• Work experiences (10%)
• Personal motivation (15%).
As part of the screening, language is assessed as a threshold: sufficient/not sufficient. The main emphasis is on the applicant’s academic excellence. In case of many applicants with the same ranking, the following prioritised secondary selection criteria are applied:

- Sex
- Age
- Provenance
- Preferred mobility track.

If, e.g., 75% of accepted applicants are male, a female applicant with an equal ranking score is listed above other male applicants with the same score.

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).

All of the compulsory subject elements (including the thesis) defined below must be followed at the exact time planned according to the table in Appendix 1. Restricted elective and elective subject elements may be freely placed in the remaining blocks within a specialisation.

Before the beginning of the MSc Programme the student must choose the first specialisation.

Before the end of the first specialisation the student must choose the second specialisation. If the second specialisation is not chosen by then the student will automatically be registered with one of the four specialisations at the second year institution where the student did not spend the first year.

In the first study year, three modules are joint and compulsory, regardless of first year institution. In the second year a course in Research Planning are joint and compulsory regardless of second year institution. Due to differences in academic calendars, it is not possible to implement one single joint Research Planning module – instead, all second year courses have the same core component worth 5 ECTS.

6.1 Specialisation 1: University of Copenhagen

The specialisation is set at 60 ECTS and consists of the following:

- Compulsory subject elements, 60 ECTS.

6.1.1 Compulsory subject elements (University of Copenhagen)

All of the following subject elements are to be covered (60 ECTS):

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Title</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAK10064U</td>
<td>Thematic Course: Ecology and Management of Forests and other Semi-natural Terrestrial Systems</td>
<td>15 ECTS</td>
</tr>
<tr>
<td>LOJK10282U</td>
<td>Applied Economics of Forest and Nature</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>LFKK10265U</td>
<td>Conflict Management</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>LNAK10072U</td>
<td>Global Environment Governance</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>NIFK14037U</td>
<td>Climate Change and Forestry: Monitoring and Policies</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>LNAK10104U</td>
<td>Location Specific Knowledge and Fieldwork in Temporary Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>NIFK13008U</td>
<td>Sustainable Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
</tbody>
</table>
6.1.2 Admission to the next specialisation
Students with this specialisation can be admitted to the following specialisations:

- Specialisation 2: Conservation Biology and Land Management (Bangor University)
- Specialisation 2: Forest and Nature Management in Changing Climate (University of Göttingen)
- Specialisation 2: Forest Management in Scandinavia and the Baltic Region (Alnarp)
- Specialisation 2: Mountain Forestry and Watershed Management (University of Padova)

6.2 Specialisation 1: Bangor University
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 60 ECTS.

6.2.1 Compulsory subject elements (Bangor University)
All of the following subject elements are to be covered (60 ECTS):

<table>
<thead>
<tr>
<th>Subject Element</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silviculture</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Ecosystem Function</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Natural and Semi-Natural Forests</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Research Methods</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Contemporary Temperate Forest and Nature Management: Climate Change and Management Strategies</td>
<td>5 ECTS</td>
</tr>
<tr>
<td>Location Specific Knowledge and Fieldwork in Temperate Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>Sustainable Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
</tbody>
</table>

6.2.2 Admission to the next specialisation
Students with this specialisation can be admitted to the following specialisations:

- Specialisation 2: Conservation Biology and Land Management (Bangor University)
- Specialisation 2: Forest and Nature Management in Changing Climate (University of Göttingen)
- Specialisation 2: Forest Management in Scandinavia and the Baltic Region (Alnarp)
- Specialisation 2: Mountain Forestry and Watershed Management (University of Padova)

6.3 Specialisation 1: University of Göttingen
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 60 ECTS.

6.3.1 Compulsory subject elements (University of Göttingen)
All of the following subject elements are to be covered (60 ECTS):

<table>
<thead>
<tr>
<th>Subject Element</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Management and Different Climatic Conditions</td>
<td>6 ECTS</td>
</tr>
<tr>
<td>Monitoring of Forest Resources</td>
<td>6 ECTS</td>
</tr>
<tr>
<td>International Forest Policy and Economics</td>
<td>6 ECTS</td>
</tr>
<tr>
<td>Biometrical Research Methods</td>
<td>6 ECTS</td>
</tr>
<tr>
<td>Remote Sensing Image Processing with Open Source Software</td>
<td>6 ECTS</td>
</tr>
<tr>
<td>Forestry in Germany</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Contemporary Temporal Forest and Nature Management: Climate Change and Management Strategies</td>
<td>5 ECTS</td>
</tr>
<tr>
<td>Location Specific Knowledge and Fieldwork in Temporary Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>Sustainable Forest and Nature Management</td>
<td>7.5 ECTS</td>
</tr>
</tbody>
</table>

6.3.2 Admission to the next specialisation
Students with this specialisation can be admitted to the following specialisations:
- Specialisation 2: Conservation Biology and Land Management (Bangor University)
6.4 Specialisation 2: Management of Forest and Nature for Society (University of Copenhagen)
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 30 ECTS.
- Thesis, 30 ECTS.

6.4.1 Compulsory subject elements (University of Copenhagen)
All of the following subject elements are to be covered (30 ECTS):

<table>
<thead>
<tr>
<th>Subject ID</th>
<th>Subject Name</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIFK18001U</td>
<td>Planning Interdisciplinary Research</td>
<td>7.5</td>
</tr>
<tr>
<td>LTEK10157U</td>
<td>Natural Resource Sampling and Modelling</td>
<td>7.5</td>
</tr>
<tr>
<td>LNAK10098U</td>
<td>Forest and Nature Management Planning</td>
<td>15</td>
</tr>
</tbody>
</table>

6.4.2 Thesis
The MSc Programme in Sustainable Forest and Nature Management with a specialisation in Management of Forest and Nature for Society includes a thesis corresponding to 30 ECTS, as described in Appendix 3 to the shared curriculum. The thesis must be written within the academic scope of the programme.

6.5 Specialisation 2: Conservation Biology and Land Management (Bangor University)
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 30 ECTS
- Thesis, 30 ECTS

6.5.1 Compulsory subject elements (Bangor University)
All of the following subject elements are to be covered (30 ECTS):

<table>
<thead>
<tr>
<th>Subject</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation Biology</td>
<td>10</td>
</tr>
<tr>
<td>Evidence Based Conservation</td>
<td>10</td>
</tr>
<tr>
<td>Research Planning</td>
<td>10</td>
</tr>
</tbody>
</table>

6.5.2 Thesis
The MSc Programme in Sustainable Forest and Nature Management with a specialisation in Conservation Biology and Land Management includes a thesis corresponding to 30 ECTS. The topic of the thesis must be within the academic scope of the programme and the thesis must be carried out in accordance with the rules defined by the host university.

6.6 Specialisation 2: Forest and Nature Management in Changing Climate (University of Göttingen)
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 30 ECTS
- Thesis, 30 ECTS

6.6.1 Compulsory subject elements (University of Göttingen)
All of the following subject elements are to be covered (30 ECTS):

<table>
<thead>
<tr>
<th>Subject Element</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioclimatology and Climate Change</td>
<td>6</td>
</tr>
<tr>
<td>Monitoring of Forest Resources</td>
<td>6</td>
</tr>
<tr>
<td>Biodiversity and Wildlife Management</td>
<td>6</td>
</tr>
<tr>
<td>Forest Management under different Climatic Conditions</td>
<td>6</td>
</tr>
<tr>
<td>Research Planning</td>
<td>6</td>
</tr>
</tbody>
</table>
6.6.2 Thesis
The MSc Programme in Sustainable Forest and Nature Management with a specialisation in Forest and Nature Management in Changing Climate include a thesis corresponding to 30 ECTS. The topic of the thesis must be within the academic scope of the programme and the thesis must be carried out in accordance with the rules defined by the host university.

6.7 Specialisation 2: Forest Management in Scandinavia and the Baltic Region (Swedish Agricultural University)
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 30 ECTS.
- Thesis, 30 ECTS.

6.7.1 Compulsory subject elements (Swedish Agricultural University)
30 ECTS of the following subject elements are to be covered:
- Sustainable Forestry in Southern Sweden 10 ECTS
- Planning in Sustainable Forest Management 10 ECTS
- National and International Forest Policy 10 ECTS
- Broadleaves: Ecology, Nature Conservation, Silviculture 10 ECTS
- Research Planning 10 ECTS

6.7.2 Thesis
The MSc Programme in Sustainable Forest and Nature Management with a specialisation in Forest and Nature Management in Changing Climate include a thesis corresponding to 30 ECTS. The topic of the thesis must be within the academic scope of the programme and the thesis must be carried out in accordance with the rules defined by the host university.

6.8 Specialisation 2: Mountain Forestry and Watershed Management (University of Padova)
The specialisation is set at 60 ECTS and consists of the following:
- Compulsory subject elements, 30 ECTS
- Thesis, 30 ECTS

6.8.1 Compulsory subject elements (University of Padova)
All of the following subject elements are to be covered (30 ECTS):
- Management of Mountain Forests and Logging Systems 10 ECTS
- Valuation and Assessment of Forest and Environmental Goods and Services 6 ECTS
- Mountain Fluvial Morphology and Stream Restoration 8 ECTS
- Research Planning 6 ECTS

6.8.2 Thesis
The MSc Programme in Sustainable Forest and Nature Management with a specialisation in Mountain Forestry and Watershed Management includes a thesis corresponding to 30 ECTS. The topic of the thesis must be within the academic scope of the programme and the thesis must be carried out in accordance with the rules defined by the host university.

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 Amendments
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 Tables

Tables are only shown for the stay at University of Copenhagen

### Table – Specialisation 1: University of Copenhagen

<table>
<thead>
<tr>
<th>1st year</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Block 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td></td>
<td>Applied Economics of Forest and Nature</td>
<td>Climate Change and Forestry: Monitoring and Policies</td>
<td></td>
</tr>
<tr>
<td>1st year</td>
<td></td>
<td></td>
<td></td>
<td>Sustainable Forest and Nature Management*</td>
</tr>
<tr>
<td>2nd year</td>
<td></td>
<td></td>
<td></td>
<td>Partner University</td>
</tr>
</tbody>
</table>

Compulsory.  
Partner University

### Table – Specialisation 2: Management of Forest and Nature for Society University of Copenhagen

<table>
<thead>
<tr>
<th>1st year</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Block 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td></td>
<td>Planning Interdisciplinary Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st year</td>
<td></td>
<td>Forest and Nature Management Planning</td>
<td></td>
<td>Thesis</td>
</tr>
<tr>
<td>1st year</td>
<td></td>
<td>Natural Resource Sampling and Modelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compulsory.  
Partner University
Appendix 2 Interim arrangements

The Shared Section of the BSc and MSc Curricula for Study Programmes applies to all students.

Appendix 3 Description of objectives for the thesis

After completing a thesis at the University of Copenhagen, the student should have:

Knowledge about:
- Identification and formulation scientific problems within the study programme’s subject areas.
- Identification of suitable combination of methodology and theory based on international research for use in his/her work with the problem formulation.

Skills in/to:
- Apply and critically evaluate theories/methodologies, including their applicability and limitations, on the basis of an organised value system and with a high degree of independence.
- 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:
- Initiate and perform academic work in a research context.
- Solve complex problems and carry out development assignments in a work context.