



Programme-specific Section of the Curriculum for the MSc Programme in Biology with a minor subject at the Faculty of Science, University of Copenhagen 2010 (Rev. 2025)

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1 Title, affiliation and language

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

1.1 Title

The MSc Programme in Biology with a minor subject leads to a Master of Science (MSc) in Biology and minor in [the minor subject] with the Danish title: *Cand.scient.*

(*candidatus/candidata scientiarum*) i *biologi med sidefag i [the minor subject]*.

It will appear from the diploma that the study programme has been completed as a MSc in two subjects and, provided that the requirements pertaining to the Upper Secondary School course packages (*gymnasiefagpakkerne*) have been met, that academic qualifications (*faglig kompetence*) for teaching at the Danish Upper Secondary School in the subjects have been achieved.

1.2 Affiliation

The programme is affiliated with the Study Board for the Biological Area, 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 Biology (*biologi*).

1.4 Language

The language of this MSc Programme is English.

2 Academic profile

2.1 Purpose

The objective of the programme is to provide the graduates with an in-depth knowledge within methods and scientific basis of biological research that are of importance for teaching within biological sciences as well as dissemination of biological research. The education is based on the competences the students have acquired during the BSc study programme.

2.2 General programme profile

The student can choose between a large number of different subject elements covering most aspects of modern biology, such as molecular biology, genetics, microbiology, cell biology, physiology, ecology, evolution, conservation, freshwater and marine biology. In addition, the student is allowed to follow supplementary subject elements within other disciplines, such as didactics and dissemination. Thus, it is possible to create an individual academic profile.

Biology is the key subject area of the programme.

2.3 General structure of the programme

The MSc Programme is set at 120 or 150 ECTS depending on whether the minor subject is within the field of sciences or not.

Exercise and Sport Sciences is in this regard considered as being outside the field of science.

The MSc Programme in Biology with a minor subject consists of the following elements:

- Basic study program, 120 ECTS including the thesis.
- Extension of the minor subject, 30 ECTS, if the minor subject is outside the field of science.

There are no defined specialisations in this MSc Programme.

2.4 Career opportunities

The MSc Programme in Biology with a minor subject qualifies students to become professionals within business functions and/or areas such as:

- A PhD programme
- Upper secondary school teacher in Biology and the minor subject.
- University College's.
- Non-governmental organisations.
- Biotech-, pharmaceutical and related industries.
- Private consultancies.
- Public administration.
- Publishing industry.

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 Competence profile

Graduates holding an MSc in Biology with a minor subject have acquired the following:

Knowledge about:

- A broad range of biological disciplines at a scientific level.
- Selected disciplines at a high scientific level.

Skills in/to:

- Use the methods related to different biological disciplines, including operation of relevant scientific equipment.
- Conduct biological investigations, including scientific experiments, in the laboratory or in the field.
- Generate and process complex biological data sets.
- Work scientifically.
- Knowledge on relevant IT solutions to obtain, analyse and store biological data.
- Search and use scientific information critically.

Competences in/to:

- Effectively and systematically acquiring new knowledge and study biological subjects at a high scientific level.
- Thinking and working systematically and analytically.
- Assessing and analysing large volumes of data and complex biological relationships.
- Evaluating and analysing biological problems at a high academic level.
- Analysing and evaluating own findings and those of others in a scientific context and applying the results in relevant and commercial and societal contexts.
- Formulating, structuring and conducting research projects, biological development work and other advanced biological tasks.

- Working independently, but also initiating and contributing constructively to interdisciplinary collaboration.
- Effectively and precisely communicating biological knowledge and issues, both in writing and orally.

4 Admission requirements

The admission requirements for the MSc Programme in Biology with a minor subject is the same as the admission requirements listed in paragraph 4 in “Programme-specific Section of the Curriculum for the MSc Programme in Biology” supplemented with the following:

- At least 105 ECTS from the Upper Secondary School course package (*gymnasiefagpakken*) are included in the BSc programme.
- At least 45 ECTS from the minor subject is included in the BSc programme.
 - If the minor subject is *within* the field of sciences (with the exception of Exercise and Sport Sciences) the 45 ECTS must be contained in the minor subject Upper Secondary School course package (*den reducerede gymnasiefagpakke*).

5 Prioritisation of applicants

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

If the number of qualified applicants to the programme exceeds the number of places available, the applicants will be prioritised according to paragraph 5 in “Programme-specific Section of the Curriculum for the MSc Programme in Biology”.

6 Structure of the programme

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

6.1 Programme components

The programme is set at 120/150 ECTS and consists of the following:

- Compulsory subject elements, 7.5 ECTS
- Restricted elective subject elements, 37.5 ECTS.
- The minor subject, 45 or 75 ECTS depending on whether the minor subject is within the field of sciences or not.
- Thesis, 30 ECTS.

6.1.1 Compulsory subject elements

All of the following subject elements are to be covered (7.5 ECTS):			
Course Code	Course Title	Block	ECTS
NNDK22001U	Videregående fagdidaktik i naturvidenskabelige fag (DidNatV)	Block 2	7.5 ECTS

6.1.2 Restricted elective subject elements within the major subject

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

Course Code	Course Title	Block	ECTS
NBIK15006U	Advanced Cell Biology	Block 1	7.5 ECTS
NBIK15003U	Advanced Bacteriology 1	Block 1	7.5 ECTS
NBIK14021U	Evolutionary Ecology	Block 1	7.5 ECTS
NBIA05008U	Biological Sequence Analysis	Block 1	7.5 ECTS
NBIK21001U	Marine Biology	Block 1	7.5 ECTS
NBIK21002U	Experimental Marine Biology	Block 1	7.5 ECTS
NBIK23002U	Danske naturtyper, økologi og karakteristik	Block 1	7.5 ECTS
NBIK15016U	The Human Microbiome	Block 1	7.5 ECTS
NBIK15011U	Experimental Molecular Genetics	Block 1	7.5 ECTS
NBIK10015U	Cell Cycle Control and Cancer	Block 1	7.5 ECTS
NBIK10017U	RNA Biology	Block 1	7.5 ECTS
LNAK10099U	Biodiversity in Urban Nature	Block 1	7.5 ECTS
NBIK15007U	Advanced Ecology	Block 1	7.5 ECTS
NBIK15017U	Theoretical Molecular Genetics	Block 1	7.5 ECTS
NBIK15009U	Cellular Signalling in Health and Disease	Block 2	7.5 ECTS
NBIK15010U	Epigenetics and Cell Differentiation	Block 2	7.5 ECTS
SGBK20002U	Macroecology and Community Ecology	Block 2	7.5 ECTS
NBIK15005U	Advanced Bacteriology 2	Block 2	7.5 ECTS
NBIK14007U	Soil Biology	Block 2	7.5 ECTS
NBIK14005U	The Biology of Fish	Block 2	7.5 ECTS
NBIK14009U	Protists – Eukaryotic Microbiology	Block 2	7.5 ECTS
NBIK14022U	Methodology and Sampling in Environmental Management	Block 2	7.5 ECTS
NBIK14001U	Climate Change and Biogeochemical Cycles	Block 2	7.5 ECTS
NBIK17001U	Dynamical Models in Molecular Biology	Block 2	7.5 ECTS
NBIK10020U	Developmental Biology	Block 2	7.5 ECTS
NBIK13005U	Experimental Higher Model Organisms	Block 2	7.5 ECTS
NNDK24000U	Science and Technology Communication	Block 2	7.5 ECTS
NBIK20005U	Cellular and Integrative Physiology	Block 3	7.5 ECTS
NBIK14010U	Social Behaviour and Communication	Block 3	7.5 ECTS
NBIA09043U	Population Genetics	Block 3	7.5 ECTS
NBIK14035U	Medical Bacteriology	Block 3	7.5 ECTS
NBIK15014U	Human Genetics	Block 3	7.5 ECTS
NBIK16003U	Marine Microbiology and Virology	Block 3	7.5 ECTS
SGBK20003U	Ornithology	Block 3	7.5 ECTS
NBIA08004U	Evolutionary Medicine	Block 3	7.5 ECTS
NBIK24002U	Molecular Mechanisms in Metabolic Disease	Block 3	7.5 ECTS
NBIK14004U	Freshwater Ecology	Block 4	7.5 ECTS
NBIK14017U	Invasion Biology	Block 4	7.5 ECTS
NNMK24000U	Animal Diversity and Evolution	Block 4	7.5 ECTS
NBIK14013U	Arctic Biology	Block 4	7.5 ECTS
NBIK14018U	Terrestrial Ecosystem Processes and Global Change	Block 4	7.5 ECTS
NBIK23000U	Data Science for Genomics	Block 4	7.5 ECTS
SBIK22001U	Experimental Medical Microbiology: From Gene to Function in Pathogenic Bacteria	Block 4	7.5 ECTS
NBIK24000U	Videregående plantebestemmelse	Block 5	7.5 ECTS

6.1.3 Restricted elective subject elements within the minor subject

45 ECTS are to be covered as subject elements from the minor subject if the minor subject is within the field of science.

75 ECTS are to be covered as subject elements from the minor subject if the minor subject is outside the field of science.

If the student lacks less than 45 or 75 ECTS of the minor subject when the MSc Programme begins the difference must be covered as elective subject elements.

6.1.4 Elective subject elements

The elective subjects are generally covered by the subject elements which the student follows on the minor subject.

- It is, however, possible to release elective subject elements if the academic minimum requirements for the minor subjects have been met – this will, e.g., be the case if one or both of the following two conditions are present:
 - A subject elements forms part of both the major and minor Upper Secondary School course packages (*gymnasiefagpakker*). The subject elements should only be passed once, and the student has full freedom of choice in terms of the remaining ECTS.
 - If less than 45 or 75 ECTS within the minor subject are missing when entering the MSc Programme.
- BSc subject elements corresponding to 15 ECTS may be included in the MSc Programme as elective subject elements without the approval of the study board.
- All courses at GLOBE Institute SUND, affiliated with a SCIENCE Study Board, are preapproved as elective courses.
- Projects. See 6.1.5 Projects.

6.1.5 Projects

- Projects outside the course scope (PUK) may be included in the elective section of the programme by up to 7.5 ECTS. The primary supervisor must be employed at either SCIENCE or GLOBE Institute SUND. The regulations are described in Appendix 5 to the shared section of the curriculum.
- Projects in practice may (PIP) be included in the elective section of the programme by up to 15 ECTS. The primary supervisor must be employed at SCIENCE. The regulations are described in Appendix 5 to the shared section of the curriculum.
- Thesis preparation projects (PREP) may be included in the elective section of the programme with up to 15 ECTS. The primary supervisor must be employed at either SCIENCE or GLOBE Institute SUND. The regulations are described in Appendix 6 to the shared section of the curriculum.
- PUK, PIP and PREP may not exceed 45 ECTS of the programme.

6.1.6 Thesis

The MSc Programme in Biology with a minor subject includes a thesis corresponding to 30 ECTS, as described in Appendix 2 to the shared curriculum. The thesis must be written within the academic scope of the programme.

The primary supervisor must be employed at either SCIENCE or GLOBE Institute SUND.

6.1.7 Academic mobility

The academic mobility is generally covered by the subject elements which the student follows on the minor subject.

The student has the possibility to arrange academic mobility during the programme according to the rules and regulations regarding pre-approvals and credit.

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 science.ku.dk one year before they come into effect.

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

Appendix 1 The recommended academic progression

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

Tables for students admitted to the programme in September (summer):

Table – MSc Programme in Biology with a minor subject within the field of science

Period	Block 1	Block 2	Block 3	Block 4
1st year	Minor subject	Minor subject	Minor subject	Minor subject
	Minor subject	Minor subject	Restricted elective	Restricted elective
2nd year	Restricted elective	Videregående fagdidaktik i naturvidenskabelige fag	Thesis	
	Restricted elective	Restricted elective		

Table – MSc Programme in Biology with a minor subject outside SCIENCE

Period	Block 1	Block 2	Block 3	Block 4
1st year	Minor subject	Minor subject	Minor subject	Minor subject
	Minor subject	Minor subject	Minor subject	Minor subject
2nd year	Minor subject	Minor subject	Restricted elective	Restricted elective
	Restricted elective	Videregående fagdidaktik i naturvidenskabelige fag	Restricted elective	Restricted elective
3rd year	Thesis			

Tables for students admitted to the programme in February (winter):

Table – MSc Programme in Biology with a minor subject within the field of science*

Period	Block 3	Block 4	Block 1	Block 2
1st year	Minor subject	Minor subject	Minor subject	Minor subject
	Minor subject	Minor subject	Restricted elective	Videregående fagdidaktik i naturvidenskabelige fag
2nd year	Restricted elective	Restricted elective	Thesis	
	Restricted elective	Restricted elective		

*This table is only relevant for students who begin the MSc Programme in February (block 3).

Table – MSc Programme in Biology with a minor subject outside the field of science*

Period	Block 3	Block 4	Block 1	Block 2
1st year	Minor subject	Minor subject	Minor subject	Minor subject
	Minor subject	Minor subject	Minor subject	Minor subject
2nd year	Minor subject	Minor subject	Restricted elective	Videregående fagdidaktik i naturvidenskabelige fag
	Restricted elective	Restricted elective	Restricted elective	Restricted elective
3rd year	Thesis			

*This table is only relevant for students who begin the MSc Programme in February (block 3).

Appendix 2 Interim arrangements

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

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

1 General changes for students admitted in the academic year 2023/24

Students admitted to the MSc Programme in the academic year 2023/24 must finish the programme as listed in the curriculum above with the following exceptions.

Restricted elective subject elements within the major subject

37.5 ECTS are to be covered as subject elements from the following list:			
Restricted elective subject elements offered as part of the curriculum (see above)			
Course Code	Course Title	Block	ECTS
NNMK15004U	Animal Morphology - (from Sea Sponges to Vertebrates)	Discontinued*	7.5 ECTS
NBIK23001U	Hot Topics in Physiology – Molecular Mechanisms in Lifestyle-Related Diseases	Discontinued*	7.5 ECTS
NBIK15000U	Advanced Plant Identification	Discontinued*	7.5 ECTS
NNDK17001U	Naturvidenskabelig formidling	Discontinued*	7.5 ECTS

*See discontinued courses below.

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

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

Restricted elective subject elements within the major subject

37.5 ECTS are to be covered as subject elements from the following list:			
Restricted elective subject elements offered as part of the curriculum (see above)			
Course Code	Course Title	Block	ECTS
NBIK22000U	Advanced Topics in Physiology - Lifestyle Related Diseases	Discontinued*	7.5 ECTS
NBIA07023U	Bioinformatics of High Throughput Analyses	Discontinued*	7.5 ECTS
NBIK15018U	Danish Natural Habitats, Ecology and Characterisation	Discontinued*	7.5 ECTS
NNMK15004U	Animal Morphology - (from Sea Sponges to Vertebrates)	Discontinued*	7.5 ECTS
NBIK23001U	Hot Topics in Physiology – Molecular Mechanisms in Lifestyle-Related Diseases	Discontinued*	7.5 ECTS
NBIK15000U	Advanced Plant Identification	Discontinued*	7.5 ECTS
NNDK17001U	Naturvidenskabelig formidling	Discontinued*	7.5 ECTS

*See discontinued courses below.

4 Discontinued courses

Course Code	Course Title	ECTS	Interim arrangement
NBIK15000U	Advanced Plant Identification	7.5	The course was a restricted elective course in the academic year 2023/24 and earlier. Offered for the last time: 2023/24 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2024/25.
NBIK22000U	Advanced Topics in Physiology – Lifestyle Related Diseases	7.5	The course was restricted elective in the academic year 2022/23. Offered for the last time: 2022/23 The course is identical to Hot Topics in Physiology - Molecular Mechanisms in Lifestyle-Related Diseases (NBIK23001U), 7.5 ECTS
NNMK15004U	Animal Morphology (from Sea Sponges to Vertebrates)	7.5	The course was restricted elective in the academic year 2023/24 and earlier. Offered for the last time: 2023/24 The course is identical to Animal Diversity and Evolution (NNMK24000U), 7.5 ECTS
NBIA07023U	Bioinformatics of High Throughput Analyses	7.5	The course was restricted elective in the academic year 2022/23. Offered for the last time: 2022/23 The course is identical to Data Science for Genomics (NBIK23000U), 7.5 ECTS
NBIK15018U	Danish Natural Habitats, Ecology and Characterisation	7.5	The course was restricted elective in the academic year 2022/23. Offered for the last time: 2022/23 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24.
NBIK23001U	Hot Topics in Physiology - Molecular Mechanisms in Lifestyle-Related Diseases	7.5	The course was restricted elective in the academic year 2023/24 and earlier. Offered for the last time: 2023/24. Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2024/25.
NNDK17001U	Naturvidenskabelig formidling	7.5	The course was a restricted elective course in the academic year 2023/24 and earlier. Offered for the last time: 2023/24 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2024/25.

Appendix 3 Description of objectives for the thesis

After completing the thesis, the student should have:

Knowledge of:

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

Skills in/to:

- 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 carry out development assignments in a work context.