Programme-specific Section of the Curriculum for the MSc Programme in Human Nutrition at the Faculty of Science, University of Copenhagen 2023

Contents

1 Title, affiliation and language ................................................................. 2
2 Academic profile .................................................................................... 2
   2.1 Purpose .......................................................................................... 2
   2.2 General programme profile ......................................................... 2
   2.3 General structure of the programme ............................................. 2
   2.4 Career opportunities .................................................................. 2
3 Description of competence profiles ...................................................... 3
   3.1 Competence profile ................................................................. 3
4 Admission requirements ........................................................................ 4
   4.1 Applicants with a Bachelor’s degree in Food Science ............... 4
   4.2 Applicants with a Bachelor’s degree in Exercise and Sport Sciences .................................................. 4
   4.3 Applicants with a related Bachelor’s degree ............................ 4
   4.4 Other applicants ..................................................................... 4
   4.5 Language requirements ............................................................ 4
   4.6 Supplementary subject elements ............................................. 4
5 Prioritisation of applicants ..................................................................... 5
6 Structure of the programme ................................................................. 5
   6.1 Programme components ......................................................... 5
7 Exemptions .......................................................................................... 6
8 Commencement etc. ............................................................................ 6
Appendix 1 The recommended academic progression ........................... 8
Appendix 2 Interim arrangements .......................................................... 8
Appendix 3 Description of objectives for the thesis ............................... 8
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 Human Nutrition leads to a Master of Science (MSc) in Human Nutrition with the Danish title: **Cand.scient. (candidatus/candidata scientiarum) i human ernæring.**

1.2 Affiliation
The programme is affiliated with the Study Board of Food, Human Nutrition and Sports, 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 Food Science (*levnedsmiddelvidenskab*).

1.4 Language
The language of this MSc Programme is English.

2 Academic profile
2.1 Purpose
The main purpose of the MSc in Human Nutrition programme is to educate academics who have a thorough understanding of human nutrition science and the importance of nutrition in health and disease.

2.2 General programme profile
The Human Nutrition programme gives the student comprehensive knowledge, skills and competences in: nutrition physiology and metabolism, nutritional requirements through different stages of life, and nutrition (and also physical activity) in the prevention and treatment of non-communicable diseases. Students will also acquire skills and competences in research methods related to human studies, including nutritional assessment techniques, study design, nutrition epidemiology concepts, and evaluation of scientific literature on nutrition and health.

The study programme will cover elective courses around clinical nutrition, sustainable diets and food systems, challenges in national and international public health nutrition-related issues, gut microbiome, metabolomics and bioactive food components. The programme involves lectures and exercises, group work, case studies and final work on an MSc thesis project. A graduate from the MSc programme in Human Nutrition will become an expert on nutrition and health and relevant research methods in this field, and can contribute to handling both local and global nutrition-related health challenges.

Human Nutrition is the key subject area of the programme.

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
Graduates in human nutrition have a solid foundation for careers in both the public and private sectors. They are attractive candidates for positions in the food and pharmaceutical industries, hospitals, food and health authorities, governmental agencies and municipalities. Graduates are qualified for positions as e.g. project managers, trial managers, medical writers, researchers or
consultants in national and international organisations. Graduates are also qualified for teaching positions in tertiary educational institutions, for example at university colleges, and for clinical dietician team-leaders in hospitals provided they select courses for such competence profile. The MSc programme also prepares students for continuing to PhD studies, should they choose to pursue an academic career.

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 Human Nutrition have acquired the following:

Knowledge about:
- Digestion, absorption, metabolism, regulation and function of nutrients in normal states and selected disease-related physiological conditions.
- Dietary assessment tools and laboratory methods used in human nutrition.
- Nutritional requirements and dietary reference values, and dietary guidelines for all population groups including vulnerable groups such as children, pregnant women and older adults.
- Management of the most common lifestyle-related non-communicable diseases and malnutrition by means of diet therapy and physical activity.
- Study design and research methods used in human nutrition, including their advantages and limitations.
- Concepts of nutritional epidemiology, including bias and confounding.
- Statistical methods routinely used in nutritional research to evaluate treatment differences and associations while avoiding bias.

Skills in/to:
- Collect and evaluate dietary and other relevant data using state-of-the-art, incl. digital methodologies.
- Evaluate key methodologies used in the field of human nutrition with regard to validity, reliability, and applicability.
- Apply standard epidemiological and statistical methodology in a nutrition context.
- Communicate specialist knowledge on nutrition and how it affects the entire life cycle of growth, health, and well-being.
- Evaluate and be critical of the scientific literature within the field of human nutrition.
- Summarise theories, methodologies and recent research findings in human nutrition.

Competences in/to:
- Adapt theories and methodologies from nutritional science in practice to promote and support a healthy living.
- Initiate, design, plan, and carry out human studies and projects.
- Monitor, interpret and advise on nutrition- and diet-related challenges and concerns of individuals and society.
- Teach topics relevant to human nutrition.
- Assess and organise own future learning processes in the field of human nutrition, to accommodate new trends, such plant-based diets and sustainability.
4 Admission requirements
With a Bachelor’s degree in Food Science with the Food, Health and Nutrition subject-specific package from the University of Copenhagen the student is granted reserved access and guaranteed a place on the MSc Programme in Human Nutrition if the student applies in time to begin the MSc Programme within three years of the completion of the Bachelor's degree.

4.1 Applicants with a Bachelor’s degree in Food Science
Applicants with a Bachelor’s degree in Food Science with the Food, Health and Nutrition subject-specific package from the University of Copenhagen are directly academically qualified for admission to the MSc programme in Human Nutrition

4.2 Applicants with a Bachelor’s degree in Exercise and Sport Sciences
Applicants with a Bachelor’s degree in Exercise and Sport Sciences from the University of Copenhagen may also be admitted if their programme includes all of the following:

- 7.5 ECTS in biochemistry (including laboratory work) equivalent in content to the biochemistry course LKEB10077U Biokemi 1.
- 7.5 ECTS in statistics equivalent in content to the statistics course NNEB15001U Basal statistik i idrætsvidenskab.

4.3 Applicants with a related Bachelor’s degree
Applicants with a Bachelor’s degree within the field of natural science from the University of Copenhagen or other Danish, Nordic or international universities may also be admitted if their programme includes the following:

Minimum 120 ECTS within the field of natural science including minimum:

- 7.5 ECTS in biochemistry (incl. laboratory work) equivalent in content to the biochemistry course LKEB10077U Biokemi 1.
- 7.5 ECTS in physiology equivalent in content to the human physiology course NNEB15012U Menneskets fysiologi.
- 7.5 ECTS in statistics equivalent in content to the statistics course LMAB10069U Statistisk dataanalyse 1.

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

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 Food Science with the Food, Health and Nutrition subject-specific course package from the University of Copenhagen with reserved access to the programme.
2) Applicants with a Bachelor’s degree in Food Science with the Food, Health and Nutrition subject-specific course package.
3) Applicants with a Bachelor’s degree in Exercise and Sport Sciences from the University of Copenhagen.
4) Applicants with a related Bachelor’s degree.
5) Other applicants.

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

- Total ECTS in science.
- Total ECTS in biochemistry, physiology and statistics multiplied by the grade point average.
- Total ECTS within the area of nutrition.
- Grade point average of the courses within the area of nutrition. If different grading systems make comparison impossible, applicants will be prioritised on the basis of an individual evaluation by the Admission Committee.

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 ECTS and consists of the following:
- Compulsory subject elements 52.5 ECTS.
- Elective subject elements, 22.5 ECTS.
- Thesis, 45 ECTS.

6.1.1 Compulsory subject elements
All of the following subject elements are to be covered (52.5 ECTS):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Block</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNEK23001U</td>
<td>Advanced Nutrition Physiology and Metabolism</td>
<td>1</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>NNEK23002U</td>
<td>Tools and Techniques in Nutrition Research</td>
<td>1</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>NNEK23003U</td>
<td>Integrative Human Metabolism</td>
<td>2</td>
<td>7.5 ECTS</td>
</tr>
<tr>
<td>NNEK23004U</td>
<td>Lifecourse Nutrition and Health</td>
<td>2</td>
<td>7.5 ECTS</td>
</tr>
</tbody>
</table>
6.1.2 Elective subject elements
22.5 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. See 6.1.4 Projects.

6.1.3 Projects

- 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 be included in the elective section of the programme with 15 ECTS. The regulations are described in Appendix 4 to the shared section of the curriculum.
- Thesis preparation projects may not be included in the elective section of the programme. The regulations are described in Appendix 6 to the shared section of the curriculum.

6.1.4 Thesis

The MSc Programme in Human Nutrition includes a thesis corresponding to 45 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 Human Nutrition is placed in blocks 3+4 of the 1st 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 university may grant exemptions from the rules in the curriculum specified solely by the university.

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

Table – General profile in Human Nutrition

<table>
<thead>
<tr>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Block 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year Advanced Nutrition Physiology and</td>
<td>Integrate Human Metabolism</td>
<td>Diet and Physical Activity in Prevention and Disease</td>
<td>Study Design in Human Nutrition</td>
</tr>
<tr>
<td>Metabolism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tools and Techniques in Nutrition Research</td>
<td>Life course Nutrition and Health</td>
<td>Elective</td>
<td>Elective</td>
</tr>
<tr>
<td>2nd year Evidence, Diet and Health</td>
<td></td>
<td>Thesis</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 the thesis, the student should have:

Knowledge about:
- 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.

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 methodology/theory chosen and the delimitation chosen.
- Assess the credibility of own findings based on relevant data processing.
- 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
- Initiate and perform academic work in a research context.
- 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.

• Solve complex problems and carry out development assignments