

Programme-specific Section of the Curriculum for the MSc Programme in

Human Nutrition

at the Faculty of Science, University of Copenhagen

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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 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 insight into human nutrition science and related subjects about the optimum function and the prevention of disease, as well as factors affecting public health in a nutritional context.

2.2 General programme profile

The Human Nutrition programme gives the student comprehensive knowledge of the importance of nutrition to human health and a thorough understanding of the principles and methods of nutritional science. The programme comprises the following main subjects: metabolic functions of nutrients, nutrition and health, diet and food culture of the general public, prevention policy and nutrition as well as the importance of the diet in the prevention of the most common widespread diseases such as cardiovascular disease, cancer, obesity, type-2 diabetes and osteoporosis. In the course of the two-year MSc programme, the students will learn about the conversion of energy and nutrients in the human body, the importance of nutrition in the various stages of life, and the effects of nutrition on health and disease through course participation in lectures and exercises, group work and final work on their MSc thesis project. A graduate from the MSc programme in Human Nutrition will be an expert on diet, nutrition and health, and can contribute to handling the global 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

The MSc Programme in Human Nutrition qualifies students to become professionals within business functions and/or areas such as:

- Trial planning and execution in larger companies and (research) institutions
- A PhD programme at the university
- Product development through innovative laboratory work (start-up companies)
- Diet and lifestyle counselling (one-person companies)

- Governmentally-funded authorities and organizations (e.g., Team Danmark)
- Other public institutions (municipalities)
- Research and educational institutions such as university colleges

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 physiological functions.
- Effects of nutrients on growth, development and health.
- The pathogenesis, treatment, and prevention of the most important life style-related non-communicable disease.
- Dietary and nutritional requirements of various population groups such as children and the elderly, including the interaction between diet and nutritional status.
- Research methods used for planning and executing studies commonly used in nutrition.
- Study designs used in human nutrition, and their advantages and limitations.
- Laboratory Methods used in human nutrition study to assess energy requirements and expenditure, food intake, anthropometric measurements, biomarkers of nutrient intake and micronutrient status, and 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 (digital) methodologies.
- Evaluate key methodologies used in the field of human nutrition with regard to validity, reliability, and applicability.
- Use evidence-based principles of nutritional science in connection with fact-finding.
- 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 projects within human nutrition.

 Monitor, interpret and advise on nutrition-related challenges and concerns in society.
- Teach and conduct basic research in 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 subjectspecific 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* data analyse 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 be able to document English proficiency corresponding to one of the following:

- upper secondary school degree, bachelor's degree or master's degree in English from Australia, Canada, Ireland, New Zealand, United Kingdom or USA.
- Nordic entrance examination with an English level comparable to the Danish level B or higher
- International Baccalaureate (IB) from an international school
- European Baccalaureate (EB) from one of the approved schools
- English B or A as Single Subject Course in Denmark
- Abiturzeugnis from Germany
- IELTS test score of minimum 6.5
- TOEFL test score of minimum 83
- Cambridge Advanced English (CAE) or Cambridge English: Proficiency (CPE) passed at level C1 or C2

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 (§15-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.
- Restricted elective subject elements, 7.5 ECTS.
- Elective subject elements, 15 ECTS.
- Thesis, 45 ECTS.

6.1.1 Compulsory subject elements

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

Course Code	Course Title	Block	ECTS
LLEK10264U	Nutrition Physiology	Discontinued*	7.5 ECTS
LLEK10263U	Nutrition Related Diseases	Discontinued*	7.5 ECTS
NNEK14015U	Experimental Nutrition Physiology	Discontinued*	7.5 ECTS
LLEK10249U	Evidence, Diet and Health	Block 1	7.5 ECTS
NNEK20008U	Project in Practice in Human Nutrition	Discontinued*	15 ECTS
NNEK20007U	Trial Methodology	Discontinued*	7.5 ECTS

^{*}See Discontinued courses below.

6.1.2 Restricted elective subject elements

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

Course Code	Course Title	Block	ECTS
NIFK14026U	Entrepreneurship and Innovation	Block 1+4	7.5 ECTS
NFOK23000U	Meal Consumer Research	Block 4	7.5 ECTS
NNEK16003U	Bioactive Food Components and Health	Block 2	7.5 ECTS
LLEK10252U	Nutrition, Growth and Development	Discontinu	7.5 ECTS
		ed*	
NFKK14006U	Project in practice	Block 1-5	15 ECTS

^{*}See Discontinued courses below.

6.1.3 Elective subject elements

15 ECTS are to be covered as elective subject elements.

- All subject elements at MSc level may be included as elective subject elements in the MSc Programme.
- BSc subject elements corresponding to 7.5 ECTS may be included in the MSc Programme.
- Projects. See 6.1.4 Projects.

6.1.4 Projects

- Projects outside the course scope (PUK) 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 (PIP) may be included in the elective or restricted elective section of
 the programme with 15 ECTS. PIP may not exceed 30 ECTS in total of the programme
 (including the compulsory subject element NNEK20008U Project in practice in Human
 Nutrition). PIP may be written as a combination of the restricted elective and elective
 section of the programme. The regulations are described in Appendix 4 to the shared
 section of the curriculum.
- Thesis preparation projects (PREP) 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.

6.1.5 *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.

6.1.6 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 block 3+4 of the 1st year.

Academic mobility requires that the student follows the rules and regulations regarding preapproval 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 (Project in Practice in block 1)

	Block 1	Block 2	Block 3	Block 4
1st	Nutrition Physiology	Nutrition Related Diseases	Elective	Elective
year	Evidence, Diet and Health	Trial Methodology	Experimental Nutrition Physiology	Restricted elective
2nd year	Project in Practice in Human Nutrition		Thesis	

Courses in italics have been discontinued. See Discontinued courses below.

Table – General profile in Human Nutrition (Project in Practice in block 3+4)

	Block 1	Block 2	Block 3	Block 4
1st	Nutrition Physiology	Nutrition Related Diseases	Project in Practice	in Human Nutrition
year	Evidence, Diet and Health	Trial Methodology	Experimental Nutrition Physiology	Restricted elective
2nd	Elective	Thesis		
year Elective		1 iicsis		

Courses in italics have been discontinued. Se Discontinued courses below.

Table – General profile in Human Nutrition (Project in Practice in block 4)

Tubic	o cherun promie in i	Tunian Tuerreion (110 jeet in 11 acties in block 1)				
	Block 1	Block 2	Block 3	Block 4		
1st	Nutrition Physiology	Nutrition Related Diseases	Restricted elective	Project in Practice in		
year	Evidence, Diet and Health	Trial Methodology	Experimental Nutrition Physiology	Human Nutrition		
2nd	Elective					
year Elective			Thesis			

Courses in italics have been discontinued. Se Discontinued courses below.

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.

Different competence profiles may apply to students admitted to the programme in different academic years. Competence profiles applicable to previous admissions can be found in Revision History for Competence Profiles at SCIENCE.

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

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

Restricted elective subject elements offered as part of the of this curriculum (see above)				
NFOK16000U	Food Consumer Research	Discontinued*	7.5 ECTS	
NNEK20001U	Nutrition and Physical Activity for Healthy	Discontinued*	7.5 ECTS	
	Ageing			
NNEK21002U	Nutrition, Public Health and Project Planning	Discontinued*	7.5 ECTS	

^{*} See discontinued courses below.

2 General changes for students admitted in the academic year 2021/22

Restricted elective subject elements

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

Restricted electi	Restricted elective subject elements offered as part of the of this curriculum (see above)				
NNEK15005U	Physiological Adaptations to Strength Training	Discontinued*	7.5 ECTS		
NFOK16000U	Food Consumer Research	Discontinued*	7.5 ECTS		
NNEK20001U	Nutrition and Physical Activity for Healthy	Discontinued*	7.5 ECTS		
	Ageing				
NNEK21002U	Nutrition, Public Health and Project Planning	Discontinued*	7.5 ECTS		

^{*} See discontinued courses below.

3 General changes for students admitted in the academic year 2020/21

Restricted elective subject elements

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

Restricted elective subject elements offered as part of the of this curriculum (see above)				
LLEK10298U	Public Health and Nutrition	Discontinued*	7.5 ECTS	
NNEK15005U	Physiological Adaptations to Strength Training	Discontinued*	7.5 ECTS	
NFOK16000U	Food Consumer Research	Discontinued*	7.5 ECTS	
NNEK20001U	Nutrition and Physical Activity for Healthy	Discontinued*	7.5 ECTS	
	Ageing			
NNEK21002U	Nutrition, Public Health and Project Planning	Discontinued*	7.5 ECTS	

^{*} See discontinued courses below.

4 Discontinued courses

Course Code	Course Title	ECTS	Interim arrangement
NNEK21002U	Nutrition, Public Health and Project Planning	7.5	The course was restricted elective in the academic year 2022/23 and earlier.
	C		Offered for the last time: 2022/23.

			Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24
NNEK20001U	Nutrition and Physical Activity for Healthy Ageing	7.5	The course was restricted elective in the academic year 2022/23 and earlier. Offered for the last time: 2022/23. Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24
NFOK16000U	Food Consumer Research	7.5	The course was restricted elective in the academic year 2022/23 and earlier. Offered for the last time: 2022/23. Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2023/24 The course is replaced by the identical course NFOK23000U Food and Meal Consumer Research
LLEK10264U	Nutrition Physiology	7.5	The course was compulsory in the academic year 2022/23 and earlier. Offered for the last time: 2022/23. The course is replaced by NNEK23001U Advanced Nutrition Physiology and Metabolism, 7.5 ECTS
LLEK10263U	Nutrition Related Diseases	7.5	The course was compulsory in the academic year 2022/23 and earlier. Offered for the last time: 2022/23. The course is replaced by the identical course NNEK23005U Diet and Physical Activity in Prevention and Treatment of Disease, 7.5 ECTS
NNEK23005U	Diet and Physical Activity in Prevention and Treatment of Disease	7.5	The course was compulsory in the academic year 2023/24. Offered for the last time: 2023/24. The course is replaced by the identical course NNEK24016U Nutrition Related Diseases, 7.5 ECTS
NNEK14015U	Experimental Nutrition Physiology	7.5	The course was compulsory in the academic year 2022/23 and earlier. Offered for the last time: 2022/23.

			The course is replaced by NNEK23002U Tools and Techniques in Nutrition Research, 7.5 ECTS
LLEK10252U	Nutrition, Growth and Development	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): 2023/24
NNEK20007U	Trial Methodology	7.5	The course was compulsory in the academic year 2022/23 and earlier.
			Offered for the last time: 2022/23.
			The course is replaced by NNEK23006U Study design in Human Nutrition
NNEK20008U	Project in Practice in Human Nutrition	15	The course was compulsory in the academic year 2022/23 and earlier.
			Offered for the last time: 2023/24.
			The course is replaced by NFKK14006U
			Project in Practice (Virksomhedspraktik). The regulations are described in Appendix 4 to the shared section of the curriculum.
NNEK15005U	Physiological Adaptations to	7.5	The course was restricted elective in the academic year 2020/21 and earlier.
	Strength Training		
			Offered for the last time: 2021/22.
			Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2022/23
LLEK10298U	Public Health and	7.5	The course was restricted elective in the
	Nutrition		academic year 2020/21 and earlier.
			Offered for the last time: 2020/21.
			The course is identical to Nutrition, Public
			Health and Project Planning (NNEK21002U) 7.5 ECTS

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.
- 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.
- 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.