



Programme-specific Section of the Curriculum for the MSc Programme in Food Innovation and Health at the Faculty of Science, University of Copenhagen 2012 (Rev. 2020)

Contents

1 Title, affiliation and language	2
1.1 Title	2
1.2 Affiliation	2
1.3 Corps of external examiners	2
1.4 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 Food Science	4
4.3 Applicants with a closely related Bachelor's degree	4
4.4 Applicants with a related Bachelor's degree	4
4.5 Other applicants.....	5
4.6 Language requirements	5
4.7 Supplementary subject elements	5
5 Prioritisation of applicants	5
6 Structure of the programme.....	6
6.1 Programme components	6
7 Exemptions.....	7
8 Commencement etc.	7
8.1 Validity.....	7
8.2 Transfer	7
8.3 Amendment	7
Appendix 1 Tables.....	8
Appendix 2 Interim arrangements	9
Appendix 3 Description of objectives for the thesis	12

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 Food Innovation and Health leads to a Master of Science (MSc) in Food Innovation and Health with the Danish title: *Cand.scient. (candidatus/candidata scientiarum) i fødevareinnovation og sundhed*.

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 purpose of the MSc in Food Innovation and Health programme is to educate graduates on a basis of natural and nutritional sciences that are able to independently apply, develop and communicate knowledge in the cross-field between food, health and innovation. To do so, graduates will be educated in innovation, entrepreneurship, food science and elements of social science. The education is research-based, has a high academic level and is interdisciplinary.

2.2 General programme profile

The programme comprises of the following main subjects: A scientific approach to gastronomy in theory and practice, food chemistry and culinary techniques, basic nutrition, consumer preferences and behaviour, sensory science, sustainability, food and meals in a cultural and societal context, as well as innovation and entrepreneurship. The skills acquired throughout the initial courses in the programme are combined in a thematic course and in the MSc thesis. Through lectures, project work and cases, the students acquire academic and practical knowledge as well as analytical and methodological qualifications.

Food innovation and health are the key subject areas 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 Food Innovation and Health qualifies students to become professionals within business functions and/or areas such as:

- A PhD programme

- Product development, innovation and consultancy in companies (both large and small scale producers), institutions, and mass caterers within the food sector.
- To start up new business ventures.
- Advice companies in the food sector.
- Teaching and research in the field of gastronomy, health and innovation.

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

On completion of the programme, an MSc in Food Innovation and Health has acquired the following:

Knowledge about:

- The scientific methodologies and theories used in the disciplines of the programme.
- Innovation and entrepreneurship in relation to food product development.
- The metabolic and physiological functions of nutrients and other bioactive food components.
- Consumer oriented innovation on food products and related services
- Key social and cultural aspects that influence people's relationship to food.
- Gastronomy as a scientific discipline, including culinary techniques at a practical and theoretical level.
- Ethical and scientific issues, including good practice in human testing and during laboratory work as well as data protection (GDPR).

Skills in/to:

- Apply qualitative and quantitative study designs and techniques used within social science and sensory science in relation to food and health.
- Assess key methodologies in the fields related to food studies with regard to validity, reliability and applicability.
- Conduct consumer-centered research in relation to food and to profile consumer segments.
- Assess the quality of products and raw materials on the basis of gastronomic, sensory and nutritional principles.
- Identification of factors influencing sustainability of foods and meals from production to consumption, including food waste.
- Apply knowledge about bioactive components, appetite and metabolism to optimise nutritional and/or functional aspects of food products and diet.
- Apply the principles of innovation and entrepreneurship in business development.
- Involve stakeholders in innovation processes and communicate ideas to decision makers.
- Apply design thinking principles to the development of novel food products.
- Communicate own specialist knowledge clearly and precisely – in writing and orally – to various target groups.

Competences in/to:

- Plan and implement innovation and its related processes in relation to food and health.
- Synthesise and test theories, principles and research findings in relation to food and health.

- Facilitate communication and understanding between scientists, gastronomers and industry partners.
- Understand and evaluate consumer behaviour in relation to food and meal acceptance.
- Develop new palatable, sustainable and healthy food products, food services and meals.
- Work independently and cooperate both within and across disciplines.
- Critically assess scientific literature in the fields relevant to food innovation and health.
- Independently assess and organise own learning processes and assume responsibility for own professional development with a view to life-long learning.

4 Admission requirements

With a Bachelor's degree in Food Science with the Food, Health and Nutrition subject-specific course package from the University of Copenhagen the student is granted reserved access and guaranteed a place on the MSc Programme in Food Innovation and Health 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 course package from the University of Copenhagen are directly academically qualified for admission to the MSc programme in Food Innovation and Health.

4.2 Applicants with a Bachelor's degree in Food Science

Applicants with a Bachelor's degree in Food Science with the Food Quality and Technology subject-specific course package from the University of Copenhagen with a minimum of 120 ECTS within the area of science may also be admitted if their programme includes all of the following:

Biochemistry (including laboratory work) equivalent in content to the SCIENCE course:

- LKEB10077U *Biokemi 1* 7.5 ECTS

Physiology equivalent in content to the SCIENCE course:

- NNEB15012U *Menneskets fysiologi* 7.5 ECTS

Statistics equivalent in content to the SCIENCE course:

- LMAB10069U *Statistisk dataanalyse 1* 7.5 ECTS

4.3 Applicants with a closely related Bachelor's degree

Applicants with a Bachelor's degree in Food Science or Nutrition and Health from other Danish or international universities with a minimum of 120 ECTS within the area of science may also be admitted if their programme includes all of the following:

Biochemistry (including laboratory work) equivalent in content to the SCIENCE course:

- LKEB10077U *Biokemi 1* 7.5 ECTS

Physiology equivalent in content to the SCIENCE course:

- NNEB15012U *Menneskets fysiologi* 7.5 ECTS

Statistics equivalent in content to the SCIENCE course

- LMAB10069U *Statistisk dataanalyse 1* 7.5 ECTS

4.4 Applicants with a related Bachelor's degree

Applicants with a Bachelor's degree with a minimum of 120 ECTS within the area of science from the University of Copenhagen or other Danish or international universities may be admitted if their programme includes the following:

Biochemistry (including laboratory work) equivalent in content to the SCIENCE course:

- LKEB10077U *Biokemi 1* 7.5 ECTS

Physiology equivalent in content to the SCIENCE course:

- NNEB15012U *Menneskets fysiologi* 7.5 ECTS

Statistics equivalent in content to the SCIENCE course

- LMAB10069U *Statistisk dataanalyse 1* 7.5 ECTS

4.5 Other applicants

The Faculty may also admit applicants who, after an individual academic assessment, are deemed to possess educational qualifications equivalent to those required in Subclauses 4.1-2.

4.6 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.

4.7 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 (§9-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 from the University of Copenhagen.
- 3) Applicants with a Bachelor's degree in Food Science with the Food, Quality and Technology subject-specific course package from the University of Copenhagen.
- 4) Applicants with a Bachelor's degree in Food Science, Nutrition and Health or a related Bachelor's degree from other Danish or international universities with a minimum of 120 ECTS within the area of science.

5) Other applicants.

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

- Total number of ECTS within the area of science

6 Structure of the programme

The compulsory subject elements, restricted elective subject elements and the thesis constitute the central parts of the programme (Section 21 of the Ministerial Order on Bachelor and Master's Programmes (Candidatus) at Universities).

6.1 Programme components

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

- Compulsory subject elements, 60 ECTS.
- Elective subject elements, 15 or 30 ECTS.
- Thesis, 30 or 45 ECTS.

6.1.1 Compulsory subject elements

All of the following subject elements are to be covered (60 ECTS):			
• NFOK13004U	Food Science and Culinary Techniques	Block 1	7.5 ECTS
• LLEK10264U	Nutrition Physiology	Block 1	7.5 ECTS
• NFOK16000U	Food Consumer Research	Block 4	7.5 ECTS
• NFOK14031U	Thematic Course in Food Innovation and Health	Block 1	15 ECTS
• NNEK16003U	Bioactive Food Components and Health	Block 2	7.5 ECTS
• NFOK18000U	Determinants of Food Consumption	Block 2	7.5 ECTS
• NIFK14026U	Entrepreneurship and Innovation	Block 4	7.5 ECTS

6.1.3 Elective subject elements

15 or 30 ECTS are to be covered as elective subject elements.

All subject elements at MSc level may be included as elective subject elements in the MSc Programme.

BSc subject elements corresponding to 15 ECTS may be included in the MSc Programme.

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 up to 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 Food Innovation and Health includes a thesis corresponding to 30 or 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 in the MSc Programme in Food Innovation and Health is placed in block 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 study board may grant exemptions from the rules in the curriculum specified solely by the Faculty of Science.

8 Commencement etc.

8.1 Validity

This subject specific section of the curriculum applies to all students enrolled in the programme – see however Appendix 2.

8.2 Transfer

Students enrolled on previous curricula may be transferred to the new one as per the applicable transfer regulations or according to an individual credit transfer by the study board.

8.3 Amendment

The curriculum may be amended once a year so that any changes come into effect at the beginning of the academic year. Amendments must be proposed by the study board and approved by the Dean.


Notification about amendments that tighten the admission requirements for the programme will be published online at www.science.ku.dk one year before they come into effect.



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

Appendix 1 Tables

Table – MSc Programme in Food Innovation and Health (Thesis 30 ECTS)

	Block 1	Block 2	Block 3	Block 4
1st year	Food Science and Culinary Techniques	Bioactive Food Components and Health	Elective	Food Consumer Research
	Nutrition Physiology	Determinants of Food Consumption	Elective	Entrepreneurship and Innovation
2nd year	Thematic Course in Food Innovation and Health	Elective	Thesis	


 Compulsory



 Restricted elective
 Elective

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

Table – MSc Programme in Food Innovation and Health (Thesis 45 ECTS)

	Block 1	Block 2	Block 3	Block 4
1st year	Food Science and Culinary Techniques	Bioactive Food Components and Health	Elective	Food Consumer Research
	Nutrition Physiology	Determinants of Food Consumption	Elective	Entrepreneurship and Innovation
2nd year	Thematic Course in Food Innovation and Health	Thesis		

 Compulsory

 Restricted elective
 Elective

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

Appendix 2 Interim arrangements

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

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

1 General changes for students admitted in the academic year 2019/20 or 2018/19

Students admitted to the MSc Programme in the academic year 2019/20 or 2018/19 must finish the programme as listed in the curriculum above with the following exceptions.

Structure of the programme

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

- Compulsory subject elements, 60 ECTS.
- Restricted elective subject elements, 7.5 ECTS.
- Elective subject elements, 22.5 ECTS.
- Thesis, 30 ECTS.

Restricted elective subject elements

7.5 ECTS are to be covered as subject elements from the following list:			
• LLEK10294U	Design of Experiments and Optimization	Block 1	7.5 ECTS
• NFOK14019U	Microbiology of Fermented Foods and Beverages	Block 1	7.5 ECTS
• LFKK10278U	Project Management	Block 3	7.5 ECTS
• NFOK14002U	Yeast Physiology and Applications	Block 3	7.5 ECTS
• NFOK15010U	Food Ingredients and Structure Design	Block 4	7.5 ECTS
• NFOK14018U	Advanced Food Chemistry	Block 4	7.5 ECTS
• NFOK16002U	Aroma - the Chemistry behind Odour	Block 5*	7.5 ECTS
• NFOK20001U	Foods based on Plants, Algae, and Fungi	Block 2	7.5 ECTS
• NFOK19001U	Food Packaging	Block 5	7.5 ECTS
• NFOK19003U	Foodomics and Plant Foods	Block 4	7.5 ECTS

*The course is offered first time in 2021

Table – MSc Programme in Food Innovation and Health

	Block 1	Block 2	Block 3	Block 4
1st year	Food Science and Culinary Techniques	Bioactive Food Components and Health	Elective	Elective
	Nutrition Physiology	Determinants of Food Consumption	Elective	Entrepreneurship and Innovation
2nd year	Restricted elective	Thematic Course in Food Innovation and Health**	Thesis	
	Food Consumer Research*			

Compulsory	Restricted elective Elective	The table illustrates the recommended academic progression. The student is allowed to plan an alternative progression within the applicable rules.
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- *The course will run in block 4 from the study year 2021/22
- **The course will run in block 1 from the study year 2021/22

Thesis

The MSc Programme in Food Innovation and Health 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

2 General changes for students admitted in the academic year 2017/18 or 2016/17

Students admitted to the MSc Programme in the academic year 2017/18 or 2016/17 must finish the programme as listed in the curriculum above with the following exceptions.




Structure of the programme

The programme consists of the following:

- Compulsory subject elements, 67.5 ECTS.
- Restricted elective subject elements, 7.5 ECTS.
- Elective subject elements, 15 ECTS.
- Thesis, 30 ECTS.

Table – MSc Programme in Food Innovation and Health – students admitted 2017/18 or 2016/17

	Block 1	Block 2	Block 3	Block 4
1st year	Food Science and Culinary Techniques	Bioactive Food Components and Health	<i>The Sociology of Food Consumption (LLEK10297U)</i>	Elective
	Nutrition Physiology	<i>Food Choice and Acceptance</i>	Elective	Entrepreneurship and Innovation
2nd year	Restricted elective	Thematic Course in Food Innovation and Health	Thesis	
	Food Consumer Research			

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

Subject elements in italics have been discontinued. See course specific changes below.

Restricted elective subject elements

7.5 ECTS are to be covered as subject elements from the following list:			
<ul style="list-style-type: none"> • Restricted elective subject elements offered as part of this curriculum (see General changes for students admitted in the academic year 2019/20 or 2018/19) 			
• NNEK17000U	Laboratory Methods in Nutrition	Discontinued*	7.5 ECTS
• NFOK15012U	Meat Products and Innovation	Discontinued*	7.5 ECTS

*See course specific changes below.

Thesis

The MSc Programme in Food Innovation and Health 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

4 Course specific changes

Discontinued course	Interim arrangements
Food Choice and Acceptance (LLEK10257U), 7.5 ECTS	The course was a compulsory course in the academic year 2017/18 or earlier.

	<p>The course was offered for the last time in the academic year 2017/18 and a third exam is offered in the academic year 2018/19.</p> <p>In this curriculum Determinants of Food Consumption (NFOK18000U) replaces the course.</p>
Hygiene and Sanitation (NFOK14023U), 7.5 ECTS	<p>The course was a restricted elective course in the academic year 2016/17 or earlier.</p> <p>The course was offered for the last time in the academic year 2016/17 and a third exam is offered in the academic year 2017/18.</p>
Laboratory Methods in Nutrition (NNEK17000U), 7.5 ECTS	<p>The course was a restricted elective course in the academic year 2019/20 and earlier.</p> <p>The course was offered for the last time in the academic year 2019/20 and a third exam is offered in the academic year 2020/21.</p>
Meat Products and Innovation (NFOK15012U), 7.5 ECTS	<p>The course was a restricted elective course in the academic year 2017/18 or earlier.</p> <p>The course was offered for the last time in the academic year 2017/18 and a third exam is offered in the academic year 2018/19.</p>
The Sociology of Food Consumption (LLEK10297U), 7,5 ECTS	<p>The course was a compulsory course in the academic year 2015/16, 16/17 and 17/18.</p> <p>The course was offered for the last time in the academic year 2019/20 and a third exam is offered in the academic year 2020/21.</p>

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.

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.