



Programme-specific Section of the Curriculum for the MSc Programme in Food Science and Technology at the Faculty of Science, University of Copenhagen 2010 (Rev. 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.....	3
2.4 Career opportunities	3
3 Description of competence profiles	4
3.1 Generic competence profile.....	4
3.2 Dairy Science and Technology (incl. internship)	4
3.3 Brewing Science and Technology	5
3.5 Plant Based Foods	6
4 Admission requirements	7
4.1 Applicants with a Bachelor's degree in Food Science	7
4.2 Applicants with a professional Bachelor's degree in Food Analysis or Food Safety from the Danish Technical University	7
4.3 Applicants with a Bachelor's degree in Food Science with the specialisation in Nutrition and Health	7
4.4 Applicants with a Bachelor's degree within the field of natural science.....	7
4.5 Other applicants.....	7
4.6 Language requirements	8
4.7 Supplementary subject elements	8
5 Prioritisation of applicants	8
6 Structure of the programme.....	8
6.1 General profile in Food Science and Technology	8
6.2 Dairy Science and Technology (incl. internship)	10
6.3 Dairy Science and Technology (excl. internship)	12
6.4 Brewing Science and Technology	13
6.5 Plant Based Foods	14
7 Exemptions.....	15
8 Commencement etc.	16
Appendix 1 The recommended academic progression	17
Appendix 2 Interim arrangements	22
1 General changes for students admitted in the academic year 2022/23	22
2 General changes for students admitted in the academic year 2021/22	23
3 General changes for students admitted in the academic year 2020/21	23
Appendix 3 Description of objectives for the thesis	32

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 Science and Technology leads to a Master of Science (MSc) in Food Science and Technology with the Danish title: *Cand.tech.al. (candidatus/candidata technologiae alimentariae)*.

The MSc programme in Food Science and Technology with a specialisation in Dairy Science and Technology including practical experience equivalent to NFOB14000 Dairy Internship leads to a Master of Science (MSc) in Food Science and Technology with a specialisation in Dairy Science and Technology with the Danish title: *Cand.tech.al. (candidatus/candidata technologiae alimentariae)/Mejeriingeniør*.

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 objectives of the programme are:

- To qualify students to undertake independent professional functions on the basis of their scientific and technical knowledge.
- To provide an insight into theoretical and experimental scientific methods.
- To qualify students to participate in scientific development work.

2.2 General programme profile

The purpose of the MSc in Food Science and Technology programme is to educate graduates on a basis of natural science so that they are able to independently apply, develop and communicate knowledge in the cross-field between food processing, food quality and sustainable food production.

The programme is taught in English in an international environment with foreign students. The programme provides the competence required to undertake independent professional functions within the national and international food industries with respect to quality assurance and control, process control and product development. The programme also provides the competence required to undertake independent functions within public food control, administration and the provision of advice on questions of food policy, and to participate in scientific development work.

Food Science and technology is the key subject area of the programme, including food processing, food quality management and product development.

2.3 General structure of the programme

The MSc Programme is set at 120 or 150 ECTS depending on whether or not the MSc programme includes internship. The rules regarding internship are stipulated in The University Programme Order (*Uddannelsesbekendtgørelsen*) Appendix 1, section 6, 5.

The MSc Programme in Food Science and Technology consists of the following elements:

- Specialisation, 120 ECTS including the thesis.
- Specialisation, 150 ECTS including the thesis and the internship.

The student must choose one of the following specialisations:

- General profile in Food Science and Technology.
- Dairy Science and Technology incl. internship*.
- Dairy Science and Technology excl. internship.
- Brewing Science and Technology
- Plant Based Foods.

As a consequence of the rules stipulated in The University Programme Order (*Uddannelsesbekendtgørelsen*) Appendix 1, section 6, 5 concerning internship students, who have already passed the Dairy internship as part of their BSc Programme in Food Science (*fødevarer og ernæring*), are not allowed to follow the specialisation in Dairy Science and Technology incl. internship. They can follow one of the following specialisations:

- General profile in Food Science and Technology.
- Dairy Science and Technology excl. internship
- Brewing Science and Technology.
- Plant Based Foods.

And subsequently students, who have passed an internship as part of their BSc Programme in Food Science *other than* Dairy internship, are not allowed to follow the specialisation in Dairy Science and Technology. This is because they cannot fulfil the competence profile of this specialisation without Dairy Internship. They must follow one of the following specialisations:

- General profile in Food Science and Technology.
- Brewing Science and Technology.
- Plant Based Foods.

Students, who have not passed an internship as part of their BSc Programme, are not allowed to follow the specialisation in Dairy Science and Technology excl. internship**. They must follow one of the following specialisations:

- General profile in Food Science and Technology.
- Dairy Science and Technology incl. internship
- Brewing Science and Technology.
- Plant Based Foods.

*From the study year 2024/25 and on the specialisation in Dairy Science and Technology including internship will be discontinued.

**See exemption listed under 6.2.6 *Exemption from Internship*

2.4 Career opportunities

The MSc Programme in Food Science and Technology qualifies students to become professionals within business functions and/or areas such as:

- A PhD Programme
- Undertake independent professional functions within the national and international food industries with respect to quality assurance and control, process control and product development.
- Undertake independent functions within public food control, administration and the provision of advice on questions of food policy, and to participate in scientific development work.

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

Graduates holding an MSc in Food Science and Technology have acquired the following regardless of the chosen specialisation:

Knowledge about:

- Food safety management in compliance with international certification systems.
- Food process equipment and methods to monitor food processes, including data collection and data analysis.
- Legal implications in food production.
- Sustainability in food science and food production, including Life Cycle Analyses.
- How innovation and entrepreneurship can be applied to the food industry.

Skills in/to:

- Execute independent practical experiments.
- Assess possibilities and limitations in the application of theories and methods.
- Structure reports from practicals and handle treatment and discussion of obtained data using appropriate software.
- Use digital tools for retrieving scientific information.
- Communicate effectively to a specialist and non-specialist audience at a variety of levels, using modern and appropriate digital communication tools.
- Apply HACCP for food safety management.
- Assess a Life Cycle Assessment.

Competences in/to:

- Formulate an independent theory on the basis of own results and/or scientific literature from a national or international perspective.
- Work independently and effectively on an individual basis, in teams as well as in cross-disciplinary environments.
- Demonstrate capacity for independent thought, creativity and rigour in the application of knowledge and skills in work situations or in research.
- Demonstrate capacity to assess the quality of digitally collected data as well as choosing the appropriate software solutions to analyse the data.
- Participate in public discussions of the impact of food production, including sustainability.

3.2 Dairy Science and Technology (incl. internship)

In addition to the generic competence profile, graduates holding an MSc in Food Science and Technology with a specialisation in Dairy Science and technology have acquired the following:

Knowledge about:

- How milk production (feeding, milking) affects the quality and composition of milk
- Unit operations in the dairy industry and how these affect the components and properties of milk and dairy products.
- The physical chemistry behind the stabilisation of milk and dairy products.
- The equipment used for manufacture of dairy products.
- The relevant aspects of chemistry, biochemistry, microbiology, physics and technology in relation to the production and processing of dairy products.
- The physiology and genetics of lactic acid bacteria of relevance to foods, as well as basic genetic manipulation of lactic acid bacteria.
- The important organisms and pathogens involved in the spoilage of dairy products.
- The entire value chain approach (“quality by design”-philosophy).
- The practical daily running of a dairy plant.

Skills in/to:

- Apply and evaluate methods for assessing the quality of milk, cheese and processed milk products.
- Analyse and evaluate dairy processing and production.
- Work in a microbiological laboratory with physiological and molecular methods, as well as handling simple bioinformatics tools.

Competences in/to:

- Participate in public discussions of the impact of dairy production.
- Participate in the working environment of a dairy plant.
- Interact with professionals in the dairy industry and associated organisations and participate in a project-based working environment.
- Develop new dairy products and technologies.
- Relate knowledge from basic sciences to the entire production chain for dairy products.
- Evaluate how the final product quality is affected by all stages in the chain from farm to table.
- Evaluate control systems in order to achieve safe dairy products.

3.3 Brewing Science and Technology

In addition to the generic competence profile, graduates holding an MSc in Food Science and Technology with a specialisation in Brewing Science and Technology have acquired the following:

Knowledge about:

- Unit operations in the brewing industry and how these affect the properties of beer, including equipment, mass balances and energy requirements.
- The relevant aspects of chemistry, biochemistry, physics and technology in relation to the production of beer.
- The physiology and handling of brewing yeast, incl. fermentation theory.
- Important organisms involved in the spoilage of beer incl. detection techniques.
- The practical daily running of a brewery.

Skills in/to:

- Apply and evaluate methods for assessing the quality of beer.
- Select and apply methods and theories that can be utilised in the brewing industry.
- Execute independent practical experiments.

Competences in/to:

- Participate in the working environment of a brewery.
- Interact with professionals in the brewing industry and associated organisations and participate in a project-based working environment.
- Develop new brewing products and technologies.
- Relate knowledge from basic sciences to the entire production chain for beer.
- Evaluate how the final product quality is affected by all stages in the chain from farm to table.
- Participate in public discussions of the impact of beer production.

3.5 Plant Based Foods

In addition to the generic competence profile, graduates holding an MSc in Food Science and Technology with a specialisation in Plant Based Foods have acquired the following:

Knowledge about:

- Describe the importance of foods derived from plants for a well-balanced human diet and for environmental sustainability relative to other food sources.
- Identify the composition of plant resources relevant for food and food technologies.
- Understand and explain the processes that foods of plant-origin undergo, e.g. fractionation and separation.
- Describing the most common types of bioactive compounds and components in foods, beverages and spices, and their modes of action in the human body.
- Referring to the formal scientific demands for placing a health claim on a food product.
- Identify and characterize common infectious agents and toxins of relevance to food safety, including the risk they pose for human health.
- Understand the interplay between safe foods and sustainable food production.
- Describe principles and applications of GC-MS, LC-MS and NMR.
- Identify suitable analytical platforms and methods for detection of one or more classes of plant-derived substances.
- Describe biochemical pathways, and the chemical structures, leading to important components of beer and wine.

Skills in/to:

- Apply basic knowledge of food source composition and nutritional quality for development of new foods and ingredients based on a variety of plant resources.
- Apply the processes of extraction, using enzymatic, chemical and physical processing.
- Work in the laboratory with selected experimental techniques that are applied in food safety.
- Ability to identify critical points when designing and executing foodomics studies.
- Ability to process complex foodomics datasets.

Competences in/to:

- Work independently and make intelligent use of scientific literature to make use of plant resources in food.

- Timely respond to societal trends referring to food innovation and needs for plant-based foods.
- Contribute with scientific evidence towards public recommendations and policy.
- Explain circular economy in the context of environmental sustainability.
- Use principles and methods for identifying and solving problems of importance to food safety.
- Evaluate basic food hygiene programmes from the processing steps to the consumer.
- Process raw GC-MS, LC-MS, and NMR data and convert into an informative metabolite table.
- Statistical analysis of foodomics/metabolomics datasets according to a scientific question.

4 Admission requirements

With a Bachelor's degree in Food Science (*fødevarer og ernæring*), with the specialisation in Quality and Technology (*kvalitet og teknologi*) or the specialisation in Food Engineer (*Fødevaringeniør*) from the University of Copenhagen the student is granted reserved access and guaranteed a place on the MSc Programme in Food Science and Technology 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 specialisation in Quality and Technology or the specialisation as Food Engineer from the University of Copenhagen are directly qualified for admission to the MSc programme in Food Science and Technology.

4.2 Applicants with a professional Bachelor's degree in Food Analysis or Food Safety from the Danish Technical University

Applicants with a professional Bachelor's degree in Food Analysis or Food Safety from the Technical University of Denmark are directly academically qualified for admission to the MSc programme in Food Science and Technology.

4.3 Applicants with a Bachelor's degree in Food Science with the specialisation in Nutrition and Health

Applicants with a Bachelor's degree in Food Science with the specialisation in Nutrition and Health from the University of Copenhagen may also be admitted if their programme includes the following:

- Food Microbiology - NFOB14028U *Fødevaremikrobiologi*

4.4 Applicants with a Bachelor's degree within the field of natural science

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

- Mathematics (7.5 ECTS credits).
- Statistics (7.5 ECTS credits).
- Chemistry (15 ECTS credits).
- Cell and/or Molecular Biology (7.5 ECTS credits).
- Food Microbiology (7.5 ECTS credits).
- Biochemistry (7.5 ECTS credits).

4.5 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 4.1-4.

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 programme are assessed exclusively on the basis of the qualifying bachelor's degree. Supplementary subject elements passed between the completion of the bachelor's programme and the admission to the MSc programme cannot be included in the overall assessment.

However, subject elements passed before the completion of the bachelor's programme 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 specialisation in Quality and Technology or the specialisation as Food Engineer from the University of Copenhagen with reserved access to the programme.
- 2) Applicants with a professional Bachelor's degree in Food Analysis or Food Safety from the Technical University of Denmark.
- 3) Applicants with a Bachelor's degree in Food Science from the University of Copenhagen.
- 4) Applicants with a Bachelor's degree within the field of natural science or related areas.
- 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 below in prioritised order):

- Grade point average. 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 27 of the Ministerial Order on Bachelor and Master's Programmes (Candidatus) at Universities).

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

6.1 General profile in Food Science and Technology

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

- Compulsory subject elements, 22.5 ECTS
- Restricted elective subject elements, 37.5 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 (22.5 ECTS):

Course Code	Course Title	Block	ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS

*Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be passed instead.

6.1.2 Restricted elective subject elements

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

Course Code	Course Title	Block	ECTS
LLEK10294U	Design of Experiments and Optimisations	Block 1	7.5 ECTS
NPLK19005U	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Block 1	7.5 ECTS
NFOK14019U	Microbiology of Fermented Food and Beverages	Block 1	7.5 ECTS
NFOK14025U	Quantitative Bio-spectroscopy	Block 2	7.5 ECTS
NFOK22000U	Microbiological Food Safety and Quality: Control, Cases and Practicals	Block 2	7.5 ECTS
NFOK21004U	Brewing and Raw materials	Block 2	7.5 ECTS
NFOK21000U	Advanced Chemometrics and machine learning	Block 3	7.5 ECTS
NFOK19002U	Food Structure and Functional Ingredients	Block 3	7.5 ECTS
NFOK17002U	Molecular and Functional Properties of Milk	Block 3	7.5 ECTS
NFOK14002U	Yeast Physiology and Applications	Block 2	7.5 ECTS
NFOK14018U	Advanced Food Chemistry	Block 2	7.5 ECTS
NFOK21001U	Plants for Foods – Processing and Functionality	Block 3	7.5 ECTS
NFOK15012U	Meat Products and Innovation	Block 4	7.5 ECTS
NPLK20001U	Cool Climate Viticulture and Enology*	Block 4	7.5 ECTS
NFOK21005U	Dairy Product Technology 1	Block 4	7.5 ECTS
NFOK14026U	Dairy Microbiology	Block 2	7.5 ECTS
NFOK16006U	Dairy Product Technology 2	Block 3	7.5 ECTS
NFOK19003U	Foodomics and Plant Foods	Block 4	7.5 ECTS
NFOK23000U	Food and Meal Consumer Research	Block 4	7.5 ECTS
NFOK19001U	Food Packaging	Block 5	7.5 ECTS

* Cannot be taken together with NNEK14007U Applied Cool Climate Viticulture and Enology or NPLK19003U Applied Cool Climate Viticulture and Enology

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. See 6.1.4 Projects.

6.1.4 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 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.

6.1.5 Thesis

The MSc Programme in Food Science and Technology with a general profile 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.

6.1.6 Academic mobility

The curriculum makes it possible for subject elements to be taken outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a General profile in Food Science and Technology is placed in block 1+2 of the 2nd year.

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a General profile in Food Science and Technology is placed in block 3+4 of the 2nd 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.

6.2 Dairy Science and Technology (incl. internship)

The specialisation is set at 150 ECTS and consists of the following:

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

6.2.1 Compulsory subject elements

All of the following subject elements are to be covered (60 ECTS + Internship 30 ECTS):

Course Code	Course Title	Block	ECTS
NFOK20006U	Dairy Internship	Block 1+2	30 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK17002U	Molecular and Functional Properties of Milk	Block 3	7.5 ECTS
NFOK21005U	Dairy Product Technology 1	Block 4	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS

Course Code	Course Title	Block	ECTS
NFOK14019U	Microbiology of Fermented Food and Beverages	Block 1	7.5 ECTS
NFOK14026U	Dairy Microbiology	Block 2	7.5 ECTS
NFOK16006U	Dairy Product Technology 2	Block 3	7.5 ECTS

*Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be passed instead.

6.2.2 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. See 6.2.3 Projects.

6.2.3 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 not 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.

6.2.4 Thesis

The MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) 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.

6.2.5 Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) is placed in block 3+4 of the 2nd year.

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) is placed in block 3+4 of the 2nd 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.

6.2.6 Internship

30 ECTS must be covered by Dairy Internship. The Dairy Internship cannot count as elective subject elements in the MSc Programme of 120 ECTS or any other MSc programme.

6.2.7 Exemption from Internship

Students with a background as Dairy Technologist or Process Technologist with Dairy Specialisation are exempt from the compulsory Dairy Internship to become a Dairy Engineer (*Mejeriingeniør*).

Students must send documentation to Science Student Services in order to obtain the title Dairy Engineer (*Mejeriingeniør*).

6.3 Dairy Science and Technology (excl. internship)

The specialisation 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

6.3.1 Compulsory subject elements

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

Course Code	Course Title	Block	ECTS
NFOK14019U	Microbiology of Fermented Food and Beverages	Block 1	7.5 ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NFOK14026U	Dairy Microbiology	Block 2	7.5 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK17002U	Molecular and Functional Properties of Milk	Block 3	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK21005U	Dairy Product Technology 1	Block 4	7.5 ECTS
NFOK16006U	Dairy Product Technology 2	Block 3	7.5 ECTS

*Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be passed instead.

6.3.2 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. See 6.3.3 Projects.

6.3.3 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 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.

6.3.4 Thesis

The MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) includes a thesis corresponding to 30 or 45 ECTS, as

described in Appendix 2 to the shared curriculum. The topic of the thesis must be within the academic scope of the programme.

6.3.5 Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (excl. internship) is placed in block 3+4 of the 2nd year.

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (excl. internship) is placed in block 3+4 the 2nd 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.

6.4 Brewing Science and Technology

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

- Compulsory subject elements, 75 ECTS
- Elective subject elements, 15 ECTS
- Thesis, 30 ECTS

6.4.1 Compulsory subject elements

All of the following subject elements are to be covered (75 ECTS):

Course Code	Course Title	Block	ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NFOK14001U	Brewing Project in Practice	Block 1-5	15 ECTS
NFOK21004U	Brewing and Raw Materials	Block 2	7.5 ECTS
NFOK14002U	Yeast Physiology and Applications	Block 2	7.5 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK21003U	Brewing Process and Technology	Block 3	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK21002U	Beer Packaging Technology	Block 4	7.5 ECTS
NPLK19005U	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Block 1	7.5 ECTS

*Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be taken instead.

6.4.2 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 15 ECTS may be included in the MSc Programme.
- Projects. See 6.4.3 Projects.

6.4.3 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 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.

6.4.4 Thesis

The MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology 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.

6.4.5 Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology is placed in block 1+2 of the 2nd year for students admitted in September

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology is placed in block 3+4 of the 2nd 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.

6.5 Plant Based Foods

The specialisation 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

6.5.1 Compulsory subject elements

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

Course Code	Course Title	Block	ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NPLK19005U	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Block 1	7.5 ECTS
NFOK22000U	Microbiological Food Safety and Quality: Control, Cases and Practicals	Block 2	7.5 ECTS
NNEK16003U	Bioactive Food Components and Health	Block 2	7.5 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK21001U	Plants for Foods – Processing and Functionality	Block 3	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS

Course Code	Course Title	Block	ECTS
NFOK19003U	Foodomics and Plant Foods	Block 4	7.5 ECTS

*Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be taken instead.

6.5.2 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. See 6.5.3 Projects.

6.5.3 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 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.

6.5.4 Thesis

The MSc Programme in Food Science and Technology with a specialisation in Plant Based Foods includes a thesis corresponding to 30 or 45 ECTS, as described in Appendix 2 to the shared curriculum. The topic of the thesis must be within the academic scope of the programme.

6.5.5 Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Plant Based Foods is placed in block 1+2 of the 2nd year for students admitted in September

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Plant Based Foods is placed in block 3+4 of the 2nd 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 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 – General profile in Food Science and Technology – Thesis 30 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Food Quality Management and Control	Restricted elective	Food Processing	Sustainable Innovation in Food Science
	Restricted elective	Elective	Elective	Elective
2nd year	Restricted elective	Elective	Thesis	
	Restricted elective	Restricted elective		

Table – General profile in Food Science and Technology – Thesis 45 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Food Quality Management and Control	Restricted elective	Food Processing	Sustainable Innovation in Food Science
	Restricted elective	Elective	Restricted elective	Elective
2nd year	Restricted elective	Thesis		
	Restricted elective			

Table – Dairy Science and Technology (incl. internship) Thesis 30 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Internship		Food Processing	Dairy Product Technology 1 (New)
			Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science
2nd year	Microbiology of Fermented Food and Beverages	Dairy Microbiology	Dairy Product Technology 2	Elective
	Food Quality Management and Control	Elective	Elective	Elective
3rd year	Thesis			

Table – Dairy Science and Technology (incl. internship) – Thesis 45 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Internship		Food Processing	Dairy Product Technology 1 (New)
			Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science
2nd year	Microbiology of Fermented Food and Beverages	Dairy Microbiology	Dairy Product Technology 2	Thesis
	Food Quality Management and Control	Elective	Elective	
3rd year	Thesis			

Table – Dairy Science and Technology (excl. internship) Thesis 30 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Microbiology of Fermented Food and Beverages	Elective	Food Processing	Dairy Product Technology 1
	Food Quality Management and Control	Dairy Microbiology	Molecular and Functional Properties of Milk	Elective
2nd year	Thesis		Dairy Product Technology 2	Elective
			Elective	Sustainable Innovation in Food Science

Table – Dairy Science and Technology (excl. internship) Thesis 45 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Microbiology of Fermented Food and Beverages	Elective	Food Processing	Dairy Product Technology 1
	Food Quality Management and Control	Dairy Microbiology	Molecular and Functional Properties of Milk	Elective
2nd year	Thesis			Dairy Product Technology 2*
				Sustainable Innovation in Food Science

*The course is not available in block 4, as it runs in block 3, however it is possible to do a written assignment in the course in block 4, if students wish to write a thesis of 45 ECTS.

Table –Brewing Science and Technology

	Block 1	Block 2	Block 3	Block 4
1st year	Food Quality Management and Control	Brewing and Raw Materials	Food Processing	Beer Packaging Technology
	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Yeast Physiology and applications	Brewing Process and Technology	Sustainable Innovation in Food Science
2nd year	Elective	Brewing Project in Practise	Thesis	
	Elective			

Table –Plant Based Foods Thesis 30 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Food Quality Management and Control	Microbiological Food Safety and Quality: Control, Cases and Practicals	Food Processing	Foodomics and Plant Foods
	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Bioactive Food Components and Health	Plants for Foods – Processing and Functionality	Sustainable Innovation in Food Science
2nd year	Elective	Elective	Thesis	
	Elective	Elective		

Table –Plant Based Foods Thesis 45 ECTS

	Block 1	Block 2	Block 3	Block 4
1st year	Food Quality Management and Control	Microbiological Food Safety and Quality: Control, Cases and Practicals	Food Processing	Foodomics and Plant Foods
	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Bioactive Food Components and Health	Plants for Foods – Processing and Functionality	Sustainable Innovation in Food Science
2nd year	Elective	Thesis		
	Elective			

Table for students admitted to the programme in February (Winter)

Table – General profile in Food Science and Technology - Thesis 30 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Restricted elective	Food Quality Management and Control	Elective
	Restricted elective	Restricted elective	Restricted elective	Restricted elective
2nd year	Elective	Sustainable Innovation in Food Science	Thesis	
	Elective	Elective		

Table – General profile in Food Science and Technology - Thesis 45 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Restricted elective	Food Quality Management and Control	Restricted elective
	Restricted elective	Sustainable Innovation in Food Science	Restricted elective	Restricted elective
2nd year	Elective	Thesis		
	Elective			

Table – Dairy Science and Technology (incl. internship) Thesis 30 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Dairy Product Technology 1	Internship	
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science		
2nd year	Dairy Product Technology 2	Elective	Food Quality Management and Control	Dairy Microbiology
	Elective	Elective	Microbiology of Fermented Food and Beverages	Elective
3rd year	Thesis			

Table – Dairy Science and Technology (incl. internship) Thesis 45 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Dairy Product Technology 1	Internship	
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science		
2nd year	Dairy Product Technology 2	Dairy Microbiology*	Food Quality Management and Control	Thesis
	Elective	Elective	Microbiology of Fermented Food and Beverages	
3rd year	Thesis			

*The course is not available in block 4 as it runs in block 2, however it is possible to do a written assignment in the course in block 4, if students wish to write a thesis of 45 ECTS.

Table – Dairy Science and Technology (excl. internship) Thesis 30 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Dairy Product Technology 1	Microbiology of Fermented Food and Beverages	Dairy Microbiology
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science	Food Quality Management and Control	Elective
2nd year	Dairy Product Technology 2	Elective	Thesis	
	Elective	Elective		

Table – Dairy Science and Technology (excl. internship) - Thesis 45 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Dairy Product Technology 1	Microbiology of Fermented Food and Beverages	Dairy Microbiology
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science	Food Quality Management and Control	Elective
2nd year	Dairy Product Technology 2	Thesis		
	Elective			

Table – Brewing Science and Technology

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Elective	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Brewing and Raw Materials
	Brewing Process and Technology	Elective	Food Quality Management and Control	Yeast Physiology and applications
2nd year	Brewing Project in Practice	Sustainable Innovation in Food Science	Thesis	
		Beer Packaging Technology		

Table –Plant Based Foods Thesis 30 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Foodomics and Plant Foods	Food Quality Management and Control	Microbiological Food Safety and Quality: Control, Cases and Practicals
	Plants for Foods – Processing and Functionality	Sustainable Innovation in Food Science	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Bioactive Food Components and Health
2nd year	Elective	Elective	Thesis	
	Elective	Elective		

Table –Plant Based Foods Thesis 45 ECTS

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Foodomics and Plant Foods	Food Quality Management and Control	Microbiological Food Safety and Quality: Control, Cases and Practicals
	Plants for Foods – Processing and Functionality	Sustainable Innovation in Food Science	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Bioactive Food Components and Health
2nd year	Elective	Thesis		
	Elective			

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 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.

General profile in Food Science and Technology

Restricted elective subject elements

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

Restricted elective subject elements offered as part of the of the General profile in Food Science and Technology in this curriculum (see above)			
NFOK16000U	Food Consumer Research	Discontinued	7.5 ECTS

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

Students admitted to the MSc Programme in the academic year 2021/22 must finish the programme as listed in the curriculum above with the following exceptions.

General profile in Food Science and Technology

Restricted elective subject elements

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

Restricted elective subject elements offered as part of the of the General profile in Food Science and Technology in this curriculum (see above)			
LLEK10219U	Control of Foodborne Microorganisms	Discontinued	7.5 ECTS
NFOK16000U	Food Consumer Research	Discontinued	7.5 ECTS

Table - Brewing Science and Technology (admitted September)

	Block 1	Block 2	Block 3	Block 4
1st year	Brewing Project in Practise	Brewing and Raw Materials	Food Processing	Beer Packaging Technology
		Yeast Physiology and applications	Brewing Process and Technology	Sustainable Innovation in Food Science
2nd year	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Elective	Thesis	
	Food Quality Management and Control			

Table – Brewing Science and Technology (admitted February)

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	Brewing Project in Practice	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Brewing and Raw Materials
	Brewing Process and Technology		Food Quality Management and Control	Yeast Physiology and applications
2nd year	Elective	Sustainable Innovation in Food Science	Thesis	
		Beer Packaging Technology		

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

Students admitted to the MSc Programme in the academic year 2020/21 must finish the programme as listed in the curriculum above with the following exceptions.

General profile in Food Science and Technology

Restricted elective subject elements

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

Restricted elective subject elements offered as part of the of the General profile in Food Science and Technology in this curriculum (see above)			
SLEK16001U	Advanced course in Microbiological Food Safety	Block 1	7.5 ECTS
NFOK13000U	Dairy Processes and Equipment	Discontinued*	7.5 ECTS
NFOK13002U	Process Analytical Chemistry and Technology	Discontinued*	7.5 ECTS
NFOK14021U	Food Enzymes and Applications	Discontinued*	7.5 ECTS
LLEK10219U	Control of Foodborne Microorganisms	Discontinued	7.5 ECTS
NFOK16000U	Food Consumer Research	Discontinued	7.5 ECTS

* See discontinued courses below.

Dairy Science and Technology (incl. internship)

The specialisation is set at 150 ECTS and consists of the following:

- Compulsory subject elements, 67.5 ECTS
- Elective subject elements, 22.5 ECTS
- Thesis, 30 ECTS
- Internship, 30 ECTS

Compulsory subject elements

All of the following subject elements are to be covered (67.5 ECTS + Internship 30 ECTS):

NFOK20006U	Dairy Internship	Block 1+2	30 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK17002U	Molecular and Functional Properties of Milk	Block 3	7.5 ECTS
NFOK13000U	Dairy Process and Equipment	Discontinued*	7.5 ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NFOK14019U	Microbiology of Fermented Food and Beverages	Block 1	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK16005U	Dairy Product Technology 1	Discontinued*	7.5 ECTS
NFOK16006U	Dairy Product Technology 2	Block 3	7.5 ECTS
NFOK14026U	Dairy Microbiology	Block 2	7.5 ECTS

*See discontinued courses below

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 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 not 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.

Thesis

The MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) 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.

Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) is placed in block 3+4 of the 1st year.

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) is placed in block 3+4 of the first 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.

Dairy Science and Technology incl. internship (admitted September)

	Block 1	Block 2	Block 3	Block 4
1st year	Internship		Food Processing	<i>Dairy Process & Equipment</i>
			Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science
2nd year	Microbiology of Fermented Food and Beverages	Elective	Dairy Product Technology 1	Elective
	Food Quality Management and Control	Elective	Dairy Product Technology 2	Dairy Microbiology
3rd year	Thesis			

Subject elements in italics have been discontinued. See discontinued courses below.

Dairy Science and Technology incl. internship (admitted February)

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	<i>Dairy Process & Equipment</i>	Internship	
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science		
2nd year	Dairy Product Technology 1	Dairy Product Technology 2	Food Quality Management and Control	Elective
	Elective	Dairy Microbiology	Microbiology of Fermented Food and Beverages	Elective
3rd year	Thesis			

Subject elements in italics have been discontinued. See discontinued courses below.

Dairy Science and Technology (excl. internship)

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

- Compulsory subject elements, 67.5 ECTS

- Elective subject elements, 22.5 ECTS
- Thesis, 30 ECTS

Compulsory subject elements

All of the following subject elements are to be covered (67.5 ECTS):

NFOK20006U	Dairy Internship	Block 1+2	30 ECTS
NFOK17001U	Food Processing	Block 3	7.5 ECTS
NFOK17002U	Molecular and Functional Properties of Milk	Block 3	7.5 ECTS
NFOK13000U	Dairy Process and Equipment	Discontinued*	7.5 ECTS
NFOK15011U	Food Quality Management and Control*	Block 1	7.5 ECTS
NFOK14019U	Microbiology of Fermented Food and Beverages	Block 1	7.5 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK16005U	Dairy Product Technology 1	Discontinued*	7.5 ECTS
NFOK16006U	Dairy Product Technology 2	Block 3	7.5 ECTS
NFOK14026U	Dairy Microbiology	Block 2	7.5 ECTS

*See discontinued courses below.

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 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.

Thesis

The MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (incl. internship) includes a thesis corresponding to 30 ECTS, as described in Appendix 2 to the shared curriculum. The topic of the thesis must be within the academic scope of the programme.

Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (excl. internship) is placed in block 1+2 of the 2nd year.

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Dairy Science and Technology (excl. internship) is placed in block 1+2 the second 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.

Dairy Science and Technology excl. internship (admitted September)

	Block 1	Block 2	Block 3	Block 4
1st year	Microbiology of Fermented Food and Beverages	Elective	Food Processing	<i>Dairy Process and Equipment</i>
	Food Quality Management and Control	Elective	Molecular and Functional Properties of Milk	Dairy Microbiology
2nd year	Thesis		Dairy Product Technology 1	Elective
			Dairy Product Technology 2	Sustainable Innovation in Food Science

Subject elements in italics have been discontinued. See discontinued courses below.

Dairy Science and Technology excl. internship (admitted February)

	Block 3	Block 4	Block 1	Block 2
1st year	Food Processing	<i>Dairy Process & Equipment</i>	Microbiology of Fermented Food and Beverages	Elective
	Molecular and Functional Properties of Milk	Sustainable Innovation in Food Science	Food Quality Management and Control	Elective
2nd year	Dairy Product Technology 1*	Dairy Product Technology 2	Thesis	
	Elective	Dairy Microbiology		

Subject elements in italics have been discontinued. See discontinued courses below.

*The course is not available in block 3, as it has changed to block 4

Brewing Science and Technology

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

- Compulsory subject elements, 67.5 ECTS
- Elective subject elements, 22.5 ECTS
- Thesis, 30 ECTS

Compulsory subject elements

All of the following subject elements are to be covered (67.5 ECTS):

NFOK15011U	Food Quality Management and Control**	Block 1	7.5 ECTS
NPLK19005U	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Block 1	7.5 ECTS
NFOK14001U	Brewing Project in Practice	Block 1+4	15 ECTS
NFOK20003U	Sustainable Innovation in Food Science	Block 4	7.5 ECTS
NFOK14016U	Brewing 1	Discontinued*	15 ECTS
NFOK14017U	Brewing 2	Discontinued*	15 ECTS

*See discontinued courses below

**Not compulsory for students who have passed the course International Food Legislation and Quality Management (NFOB14013U) as part of their BSc programme. Elective subject element must be taken instead.

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 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.

Thesis

The MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology 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.

Academic mobility

The curriculum makes it possible to follow subject elements outside the Faculty of Science.

For students admitted in September the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology is placed in block 1+2 of the 2nd year for students admitted in September

For students admitted in February the academic mobility for the MSc Programme in Food Science and Technology with a specialisation in Brewing Science and Technology is placed in block 3+4 of the 2nd 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.

Brewing Science and Technology (admitted September)

	Block 1	Block 2	Block 3	Block 4
1st year	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Brewing Project in Practise	<i>Brewing 1</i>	<i>Brewing 2</i>

	Food Quality Management and Control			
2nd year	Thesis		Elective	Elective
			Elective	Sustainable Innovation in Food Science

Subject elements in italics have been discontinued. See discontinued courses below.

Brewing Science and Technology (admitted February)

	Block 3	Block 4	Block 1	Block 2
1st year	<i>Brewing 1</i>	<i>Brewing 2</i>	Fundamentals of Beer Brewing and Wine Making – Biochemistry, Organisms and Omics Techniques	Elective
			Food Quality Management and Control	Elective
2nd year	Brewing Project in Practice	Sustainable Innovation in Food Science	Thesis	
		Elective		

Subject elements in italics have been discontinued. See discontinued courses below.

5 Discontinued courses

Course Code	Course Title	ECTS	Interim arrangement
NFOK14016U	Brewing 1	15	<p>Offered last time: 2020/21</p> <p>The course was compulsory on the brewing specialisation in the academic year 2020/21 and earlier.</p> <p>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22.</p> <p>Students who have not passed the course when the last exam has been held, must instead take the courses Brewing Raw Materials (NFOK21004U), 7.5 ECTS and Yeast physiology and Applications (NFOK14002U), 7.5 ECTS</p>

Course Code	Course Title	ECTS	Interim arrangement
NFOK14017U	Brewing 2	15	<p>Offered last time: 2020/21</p> <p>The course was compulsory on the brewing specialisation in the academic year 2020/21 and earlier.</p> <p>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22.</p> <p>Students who have not passed the course when the last exam has been held, must instead take the courses NFOK21003U Brewing Process and Technology, 7.5 ECTS and NFOK21002U Beer Packaging Technology, 7.5 ECTS</p>
LLEK10219U	Control of Foodborne Microorganisms	7.5	<p>The course was restricted elective on the general profile in the academic year 2021/22 and earlier.</p> <p>Offered for the last time: 2021/22.</p> <p>The course is replaced by NFOK22000U Microbiological Food Safety and Quality: Control, Cases and Practicals, 7.5 ECTS</p>
NFOK13000U	Dairy Process and Equipment	7.5	<p>Offered for the last time 2020/21.</p> <p>The course was compulsory on the dairy specialisation in the academic year 2020/21 and earlier.</p> <p>The course was restricted elective on the general profile in the academic year 2020/21 and earlier.</p> <p>Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22.</p> <p>Students on the dairy specialisation who have not passed the course when the last exam has been held, must instead hand in a written assignment, 7.5 ECTS in the course subject.</p>

Course Code	Course Title	ECTS	Interim arrangement
NFOK16005U	Dairy Product Technology 1	7.5 ECTS	<p>Offered for the last time 2021/22.</p> <p>The course was compulsory on the dairy specialisation in the academic year 2021/22 and earlier.</p> <p>The course is replaced by the identical course NFOK21005U Dairy Product Technology 1</p>
NFOK14021U	Food Enzymes and Applications	7.5	<p>The course was a restricted elective course elective on the general profile in the academic year 2020/21 an earlier.</p> <p>Offered for the last time: 2020/21 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22.</p>
NFOK13002U	Process Analytical Chemistry and Technology	7.5	<p>The course was a restricted elective course elective on the general profile in the academic year 2020/21 an earlier.</p> <p>Offered for the last time: 2020/21 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22.</p>
NFOK20004U	Short Thematic Course	7.5	<p>The course was compulsory on all specialisations in the academic year 2020/21.</p> <p>Offered for the last time: 2020/21 Last exam if applicable (cf. SCIENCE's Teaching and exam rules): 2021/22</p> <p>The course is replaced by NFOK20003U Sustainable Innovation in Food Science, 7.5 ECTS.</p>

Appendix 3 Description of objectives for the thesis

After completing the thesis, the student should have:

Knowledge about:

- How to identify scientific problems within the area of Food Science and Technology.
- How to summarise a suitable combination of methodologies/theories based on international research in order to prepare a problem formulation.
- How to discuss theories/models with a high degree of independence.

Skills in/to:

- Use digital tools for retrieving scientific information.
- Apply and critically evaluate methodologies/theories, including their limitations.
- Analyzing obtained data using appropriate software.
- Discuss academic issues arising from the thesis.
- Draw conclusions in a clear and academic manner.
- Preparing the thesis using appropriate software.
- Presenting the findings from the thesis using appropriate software.
- Process own data through a choice of academic analyses, and present findings in a concise manner.

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 environment or in an applied fashion in the food industry.
- Solve complex problems and solve assignments in a working environment.