

## Course Detail

### Master of Science, Program in Food Science and Technology (International)

<b>Course title:</b>	Master of Science in Food Science and Technology (International)
Language of Instruction	English
Academic Institute	Department of Food Technology, Faculty of Science, Chulalongkorn University, Bangkok THAILAND
Web address (for the institution, faculty, school or course)	<a href="https://www.chula.ac.th">https://www.chula.ac.th</a> <a href="http://web.sc.chula.ac.th">http://web.sc.chula.ac.th</a> <a href="http://foodtech.sc.chula.ac.th/studyprogram/interen/">http://foodtech.sc.chula.ac.th/studyprogram/interen/</a>
<b>Academic Institution:</b>	Chulalongkorn University
<b>Duration:</b>	2 years (August 2020 – May 2022)

### Background of and Rational

Thai Food industry is growing and expanding their trading internationally as well as more overseas food companies are seeking to invest in Thailand due to attractive tax benefits and a good supporting investment package from Thai government. Therefore, a high number of food science and technologists are required in order to fulfill the need of high skill employees in terms of research and development, processing and quality control and safety. The soft skill and language of the employees are important for the food industry. Therefore, knowing English and understanding the career knowledge in English environment is also important. These needs of stakeholders are then contributed to the MSc program in Food Science and Technology at Department of Food Technology, Faculty of Science, Chulalongkorn University. The course has been designed for Thai and non-Thai residents to be able to gain their high skill and deep knowledge in food processing, food research and development, food quality control and safety. The course is taught in English induration of minimum 2 years. The student has to register in thesis for 18 credits for research skill development. The graduates are able to be employed in food industry for both Thai and internationally as well as government organization that deal with international trading or law for food industry. The program also emphasizes, both in comprehensive knowledge and practical skills, in-depth knowledge in areas of food science and technology. Since 1984, the establishment of Department of Food Technology has been progressively fruitful and achieved its goal to produce high quality graduates at any educational degree to support government institutions and Thai food industries with commitment to become the “Pillar of the Kingdom” as determinedly declared by Chulalongkorn University.

### Objectives

The M.Sc. program in Food Science and Technology intends to produce graduates in accordance with the Chulalongkorn University’s key desired characteristics, however, our student shall have characteristics in specific major learning outcomes as following:

- Students should have well-rounded, systematic and in-depth knowledge in food science and technology (emphasize on product and processing development, food properties and food processing and engineering) and having the ability to apply it to research and development in the industrial scale.

- Students should have ability to analyze topics in a rational way and being able to think creatively.
- Students should have ability to solve problems in a systematic way using knowledge pertaining to food science and technology.
- Students should be able to demonstrate professional skills and practical skills for food industry (management of production, quality control, research development and process design) including communication skills, critical thinking, problem solving and life-long learning skills.

Therefore the specific objectives for MSc graduate in Food Science and Technology (International Program) are;

- To produce graduate who have high academic knowledge and skill in food science and technology
- To build new knowledge in food science and technology for using to serve the needs of the country

### Study Plan

Our Graduate students should have systematic and in-depth knowledge in food science and technology, emphasizing on product and processing development, food properties and food processing and engineering. The curriculum structure of M.Sc. program in Food Science and Technology comprises of three major groups of modules, accounting for a total credit of 39 credits, as follows:

1. <b>Required modules</b>	<b>9</b>	<b>Credits</b>
1.1 Statistical Methods for Food Research		
1.2 Instrumentation Techniques in Food Research		
1.3 Individual study I		
1.4 Seminar I		
1.5 Seminar II		
2. <b>Elective modules</b>	<b>12</b>	<b>Credits</b>
3. <b>Thesis</b>	<b>18</b>	<b>Credits</b>
	<b>Total 39</b>	<b>Credits</b>
	<b>2-4 years course</b>	

A total credit of 39 CU credits is required for completion of the M.Sc. program in Food Science and Technology at Chulalongkorn University. The study program (annual plan) is demonstrated as follows.

<b>Year 1</b>	<b>Semester 1</b>	<b>credits</b>
2314672	Instrumentation Techniques in Food Research	3.0
2314xxx**	Electives	6.0
<b>TOTAL</b>		<b>9.0</b>

<b>Year 1</b>	<b>Semester 2</b>	<b>credits</b>
2314665	Statistical Methods for Food Research	3.0
2314698	Individual Study I	1.0
2314xxx**	Electives	6.0
2314813	Thesis	3.0
<b>TOTAL</b>		<b>13.0</b>
<b>Year 2</b>	<b>Semester 3</b>	<b>credits</b>
2314703	Seminar I	1.0
2314813	Thesis	10.0
<b>TOTAL</b>		<b>11.0</b>
<b>Year 2</b>	<b>Semester 4</b>	<b>credits</b>
2314704	Seminar II	1.0
2314813	Thesis	5.0
<b>TOTAL</b>		<b>6.0</b>
<b>GRAND TOTAL</b>		<b>39.0</b>

4. **Thesis modules** **18.0** credits

\*\*For Elective Food Science and Technology Module, students must select the available module(s) (2314XXX) offered in that academic year from the following list:

1. 2314565 Thermal Processing of Foods (2.0 credits)
2. 2314566 Food Chilling and Freezing (2.0 credits)
3. 2314568 Physical Properties of Foods (3.0 credits)
4. 2314572 Food Product Design (3.0 credits)
5. 2314573 Applied Food Microbiology (3.0 credits)
6. 2314574 Research and Development of Functional Foods (3.0 credits)
7. 2314576 Drying Technologies in Food Processing (2.0 credits)
8. 2314670 Food Phenolics (2.0 credits)
9. 2314671 Chemical and Physical Changes in Food (3.0 credits)

10. 2314673 Packaging of Food Products credits)	(3.0
11. 2314699 Individual Study II	(1.0 credits)
12. 2314501* Basic Food Processing	(3.0 credits)
13. 2314502* Basic Food Microbiology credits)	(3.0
14. 2314503* Basic Food Chemistry	(3.0 credits)

\*Only for students who are not graduated from B.Sc. in Food Science and Technology or Food Technology or Ago-Industry and they are basic modules for S/U pass but not account credits for completion of degree.

### **Graduation Conditions;**

For graduation requirements, students must have a total time of study not exceed 4 academic years. All modules stated in the curriculum must be completed with a minimum 3.00 GPAX of the whole program.

Student also is required to propose thesis proposal within 2 academic years, starting from the first semesters they enroll in the program and defend the thesis within 4 academic years, starting from the first semesters they enroll in the program. Student is required to have at least one proceedings or publication prior to request for thesis defending.

Therefore, for completion of the program, student need to have minimum of 3.00 GPAX and pass thesis examination and submit thesis with proceedings or publication to the graduate school.

### **Admission process to the program**

1. Applicants must hold a Bachelor of Science in Food Technology or related fields. For other related degree holders, an approval from the Academic Program Subcommittee is required. Students completing their eligible degrees in the last semester can also apply.
2. The applicants who are from other areas not Food Technology or Food Science or Food Science and Technology must enroll in the basic food technology subjects (Food Processing, Food Microbiology, and Food Chemistry) that the department graduate program administration committee will consider for a particular student.

### **Documents required for application**

1. Application form and a concept proposal (800-1000 words) with photo attached
2. TOEFL or IELTS scores or CU-TEP (for those who do not have TOEFL or IELTS score)  
Candidates whose first language is not English must undertake a proper English proficiency test and meet the following requirement:
  - A TOEFL score of 530 (paper-based) or 197 (computer-based) or 71 (internet-based) or higher
  - An IELTS score of 6.0 or higher.
  - CU-TEP score equivalent to TOEFL score of 530 <http://www.atc.chula.ac.th>
3. Three sealed recommendation letters
4. Academic transcript (In English) and certification of graduation of Bachelor degree.
5. Copy of passport
6. Applicant's CV

All documents should be sent to the secretariat of the program. The committee of M.Sc. in Food Science and Technology will consider the application and documents and accept as M.Sc. candidate. The selected students will be notified by website of graduate department of Chulalongkorn University as well as informed by the secretariat of the M.Sc. Program.

**Timetable of admission**

First Semester (Start in August)	March to May
Second Semester (Start in January)	September to October

**Contact:**

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\*\*\*The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/ territories.