

Course Detail

Master of Science Program in Food Innovation, Safety, and Quality Management (International Program)

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| Course Title: | Master of Science Program in Food Innovation, Safety, and Quality Management (International Program) |
| Master Degree: | Master of Science (Food Innovation, Safety, and Quality Management) |
| Academic Institution: | Faculty of Technology, Khon Kaen University |
| Duration: | Two years (June 2021 – May 2023) |

Background and Rational

The Thai government current strategy for economic and social development (the latest issue no 12 (2017 – 2021)) recognizes that one of its objectives is to elevate Thailand to be a developed country with security, prosperity and sustainability. Thailand must accelerate the improvement of fundamental strategic development factors in all respects. The Twelfth Plan focuses on incorporating creativity and innovation to generate a new value-added economy, including manufacturing processes and forms, new products and services, technology changes, and business patterns. Therefore, development in the next five years will focus on knowledge-based development which results from the use of wisdom, skills, science, technology, research and development, and innovation in all aspects of development. One of the target of the Twelfth Plan is that Thailand will be the world's kitchen of quality and hygienic food. The emphases and development issues of the Twelfth Plan focus on promotion of the application of technology and creativity and the development of innovation, based on environmentally-friendly production. The target industries for this group include advanced agro-based and food industry, e.g. functional food, creative food, and Halal food. The promotion of the application of automation in the production process, and a boost of research and development, creativity, and local wisdom utilization are key to increasing productivity and creating higher value-added products within the manufacturing sector. Moreover, one major development focus is on building up an environment conducive to knowledge-focused and innovation-driven production by establishing an efficient platform for cooperation linkages between the academic and industrial sectors in order to develop high quality human resources for industry, and support R&D for advanced industrial technology upgrading.

This International program, M.Sc. in Food Innovation, Safety, and Quality Management targets the objective of the Thai government's current strategic plan for economic and social development; this program will prepare students to acquire the capacity, knowledge and skills with an international perspective, so that they can make a contribution towards the improvement of food product using innovation technique, safety aspects of food production, and quality management systems in food industry, as well as serve private sector research laboratories which are important for the country's future innovation development.

Objectives

The program aims to provide students with advanced knowledge emphasizing on product development using innovation technique, safety aspects of food production, and quality management systems in food industry. The students will have an opportunity to develop their critical thinking and communication skills by conducting research, data analyses, and presenting the result. Areas of specialization include food product innovation, market and

consumer research, quality and safety management systems in food industry, quality monitoring, verification and improvement in food industry, risk analysis in food industry, international food safety policy and regulations etc.

Course Synopsis and Methodology

Study plan

| Program | Thesis | Coursework | Total |
|---------|------------|------------|------------|
| A1 | 36 Credits | - | 36 Credits |
| A2 | 15 Credits | 21 Credits | 36 Credits |

Course content/ Study Topic

| Course | The Number of Credit Hours | |
|---------------------|----------------------------|---------------|
| | Program A: A1 | Program A: A2 |
| Total credit | 36 | 36 |
| 1) Required course | 2 (non-credit)* | 11 |
| 2) Elective course | - | 10 |
| 3) Thesis | 36 | 15 |

List of course

Program A: A1

1) Compulsory course (non-credits)

| Subject Code | Subject Name | Credit |
|--------------|---|--------|
| TE137 891 | Food Innovation, Safety and Quality Management Seminar I | 1 |
| TE137 892 | Food Innovation, Safety and Quality Management Seminar II | 1 |

*Note: Student must visit food industry companies (at least 2 companies) arranged by the department.

(2) Thesis (36 Credits)

| Subject Code | Subject Name | Credit |
|--------------|-------------------------|--------|
| TE137 899 | Thesis (for Program A1) | 36 |

Program A: A2

1) Compulsory course (11 credits)

| Subject Code | Subject Name | Credit |
|--------------|---|--------|
| TE137 510 | Food Product Innovation, Market and Consumer Research | 3 |
| TE137 610 | Quality and Safety Management Systems in Food Industry | 3 |
| TE137 710 | Food Innovation, Safety and Quality Management Research Methodology | 3 |
| TE137 891 | Food Innovation, Safety and Quality Management Seminar I | 1 |
| TE137 892 | Food Innovation, Safety and Quality Management Seminar II | 1 |
| TE137 722 | Overview of Food Science and Technology | 3 |
| TE137 752 | Selected Topics in Food Science and Technology | 3 |

*Note: Student must visit food industry companies (at least 2 companies) arranged by the department.

1) Elective course

Students must register for these elective subjects at least 10 credits with regards to the consent of advisor or curriculum's committees

| Subject Code | Subject Name | Credit |
|--------------|--|--------|
| TE137 112 | Safety Monitoring and Analytical Techniques in Foods | 2 |

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| TE137 113 | Food Analytical Techniques in Safety and Quality Aspects | 3 |
| TE137 122 | Food Toxicology | 3 |
| TE137 132 | Functional Food Ingredients and Safety Aspects | 3 |
| TE137 142 | Advanced Food Chemistry | 3 |
| TE137 212 | Rapid Analytical Techniques in Food Microbiology | 3 |
| TE137 222 | Advanced Food Microbiology | 3 |
| TE137 412 | Process Development and Control | 3 |
| TE137 522 | Sensory Evaluation in Food Research | 3 |
| TE137 622 | Safety Aspects of Food Production | 3 |
| TE137 632 | Risk Analysis in Food Industry | 3 |
| TE137 642 | International Food Safety Policy and Regulations | 2 |
| TE137 652 | Quality Monitoring, Verification and Improvement in Food Industry | 3 |
| TE137 732 | Current Topics in Food Innovation, Food Safety and Quality Management | 2 |
| TE137 742 | Logistic and Food Supply Chain Management | 3 |
| TE137 752 | Selected Topics in Food Science and Technology | 3 |
| TE137 762 | Innovation in Food Technology | 3 |

(2) Thesis (15 Credits)

| Subject Code | Subject Name | Credit |
|--------------|-------------------------|--------|
| TE137 899 | Thesis (for Program A2) | 15 |

Graduation Conditions:

Receive academic credits as shown in (๑.)

The student is required to do one of the following:

- (1) At least one publication in an international journal which is shown in the ISI/SCOPUS database with an impact factor or SNIP/SJR indicator.
- (2) The research work is issued as a patent/petty patent.
- (3) The research work contributes or has significant impact on industry or community, which leads to a partnership between academia and other organizations.

Refer to (๔.๒), if the student chooses (1), the student is not required to submit the proceeding from international conference.

Attain a cumulative grade point average (GPAX) of 3.25 or higher every year

Applicant Qualifications

Meet all the minimum requirement of Khon Kaen University Graduate School regarding the graduate student qualifications.

Applicant who applies for A1 must hold the GPA accumulative at least 3.25 of 4.00 from undergraduate level in the field of Science and Food Technology, Agro-industrial, Food Engineering, Food Product Development or other related field. Applicant who has GPA accumulative less than 3.25, must have working experience related to above mentioned fields at least 2 years. Or upon the decision of the program chair and committee.

Applicant who applies for A2 must hold the GPA accumulative at least 2.50 of 4.00 from undergraduate level in the field of Science or other related fields. Applicant who has GPA accumulative less than 2.50, must have working experience related to Science and Food Technology field at least 2 years. Or upon the decision of the program chair and committee.

Document Required:

1. TIPP Application form
2. Medical Report
3. English Proficiency Test (TOELF/IELTS)
4. Two (2) letters of recommendation
5. Official transcript(s) (original or Certified True Copies) of all academic records. All foreign documents must be accompanied with an English translation by an approved foreign credential evaluation service.
6. A copy of a degree certificate in English
7. A one-page statement of purpose explaining why you are applying and how you believe this degree will help you accomplish your goals.
8. Additional document needed for international students: A copy of a passport (profile page)

Contacts:

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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.