

**REGULATIONS FOR THE DEGREES OF
MASTER OF SCIENCE (MSc) AND MASTER OF SCIENCE IN ENVIRONMENTAL
MANAGEMENT (MSc[EnvMan])**

For students admitted in 2023-24 and thereafter

(See also General Regulations and Regulations for Taught Postgraduate Curricula)

Any publication based on work approved for a higher degree should contain a reference to the effect that the work was submitted to the University of Hong Kong for the award of the degree.

The degree of Master of Science is a postgraduate degree awarded for the satisfactory completion of a prescribed course of study in one of the following five fields: Applied Geosciences, Food Industry: Management and Marketing, Food Safety and Toxicology, Physics and Space Science.

The degree of Master of Science in Environmental Management is a postgraduate degree awarded for the satisfactory completion of a prescribed course of study in Environmental Management.

Admission requirements

Sc21

- (a) To be eligible for admission to the courses leading to the degree of Master of Science or Master of Science in Environmental Management, a candidate
 - (i) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula;
 - (ii) shall hold a Bachelor's degree with honours of this University; or another qualification of equivalent standard of this University or another University or comparable institution accepted for this purpose;
 - (iii) in respect of the courses of study leading to the degree of Master of Science in the field of Space Science, shall hold a Bachelor's degree in a relevant science or engineering discipline, and prior knowledge expected in basic college-level physics, mathematics, statistics, and computer programming;
 - (iv) in respect of the courses of study leading to the degree of Master of Science in the field of Physics, a Bachelor's degree with honours in a relevant science (e.g. physics, astronomy, earth science, mathematics) or engineering, and prior knowledge expected in university-level electromagnetism, quantum mechanics and thermodynamics, university-level linear algebra and multi-variable calculus, basic statistics, and some computer programming experience (e.g. coding in C++, Mathematica, Matlab or Python); and
 - (v) shall satisfy the examiners in a qualifying examination if required.
 - (b) A candidate who does not hold a Bachelor's degree with honours of this University or another qualification of equivalent standard may in exceptional circumstances be permitted to register if the candidate demonstrates adequate preparation for studies at this level and satisfies the examiners in a qualifying examination.
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Qualifying examination

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- (a) A qualifying examination may be set to test the candidate's academic ability to follow the course of study prescribed. It shall consist of one or more written papers or equivalent and may include a project proposal.
 - (b) A candidate who is required to satisfy the examiners in a qualifying examination shall not be permitted to register until he/she has satisfied the examiners in the examination.
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Award of degree

Sc23 To be eligible for the award of the degree of Master of Science or Master of Science in Environmental Management, a candidate

- (i) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula; and
 - (ii) shall complete the curriculum and satisfy the examiners in accordance with these regulations and syllabuses.
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Advanced standing

Sc24 In recognition of studies completed successfully before admission to the Master of Science in Environmental Management, Master of Science in the field of Applied Geosciences and Master of Science in the field of Space Science, advanced standing of up to 12 credits may be granted to a candidate with appropriate qualification and professional experiences, on production of appropriate certification, subject to the approval of the Board of the Faculty. Credits gained for advanced standing shall not be included in the calculation of the GPA but will be recorded on the transcript of the candidate. The candidate should apply before commencement of first year of study via the Department and provide all the supporting documents.

Period of study

Sc25

- (a) The curriculum of the Master of Science (except Master of Science in the field of Food Industry: Management and Marketing) or the Master of Science in Environmental Management shall normally extend over one academic year of full-time study or two academic years of part-time study. Candidates in either degree shall not be permitted to extend their studies beyond the maximum period of registration of two academic years of full-time study or three academic years of part-time study, unless otherwise permitted or required by the Board of the Faculty.
- (b) The curriculum of the Master of Science in the field of Food Industry: Management and Marketing shall normally extend over one academic year of full-time study. Candidates shall not be permitted to extend their studies beyond the maximum period of registration of two academic years of full-time study, unless otherwise permitted or required by the Board of the Faculty.

Completion of curriculum

Sc26 To complete the curriculum of the Master of Science or Master of Science in Environmental Management, a candidate

- (a) shall satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula;
 - (b) shall follow courses of instruction and complete satisfactorily all prescribed written, practical and field work;
 - (c) shall complete and present a satisfactory dissertation or project on an approved subject or complete courses with equivalent credits as a replacement; and
 - (d) shall satisfy the examiners in all courses prescribed in the respective syllabuses.
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Dissertation or Project

Sc27 The title of the dissertation or project shall

- (a) for the full-time mode of Master of Science (except MSc in Environmental Management and MSc in the field of Food Industry: Management and Marketing), be submitted for approval by October 15 and the dissertation or project report shall be submitted not later than August 15 in the subsequent year;
- (b) for the full-time curriculum of MSc in the field of Food Industry: Management and Marketing, be submitted by April 30 and the dissertation or project report shall be submitted not later than August 15 of the first year of study, unless otherwise permitted or required by the course coordinator(s);
- (c) for the full-time curriculum of MSc in Environmental Management, be submitted by October 30 and the dissertation or project report shall be submitted not later than the last Friday in June of the first year of study, unless otherwise permitted or required by the course coordinator(s);
- (d) for the part-time curriculum (except Master of Science in the field of Applied Geosciences, Master of Science in the field of Physics and MSc in Environmental Management), be submitted for approval by March 15 of the first year of study and the dissertation or project report shall be submitted not later than July 1 of the second year of study;
- (e) for the part-time curriculum of MSc in Environmental Management, be submitted by June 30 of the first academic year, unless otherwise permitted or required by the course coordinator(s). The dissertation shall be submitted not later than the last Friday in May of the second year of study and the project report shall be submitted not later than the last Friday in June of the second year of study, unless otherwise permitted or required by the course coordinator(s);
- (f) for the full-time curriculum of Master of Science in the field of Physics, be submitted by November 30 and the dissertation or project report shall be submitted not later than the first Friday in June of the first year of study;
- (g) for the part-time curriculum of Master of Science in the field of Physics, be submitted by November 30 of the first academic year and the dissertation or project report shall be submitted not later than the first Friday in June of the second year of study.

Sc 28 A candidate shall submit a statement that the dissertation or project represents his/her own work (or in the case of co-joint work, a statement countersigned by his/her co-worker, which shows his/her share of the work) undertaken after registration as a candidate for either degree.

Assessments

Sc29 The assessment in any course shall consist of elements prescribed by the course teachers, and will normally comprise either written coursework alone, or coursework combined with formal examinations; in either case participation in field work or practical work may form part of the assessment.

Sc30 A candidate who has failed to satisfy the examiners

- (a) at his/her first attempt in any course in the examination held during any of the academic years of study may be permitted to present himself/herself for re-examination in the course or courses at a specified subsequent examination, with or without repeating any part of the curriculum;
 - (b) at his/her first submission of dissertation or project report may be permitted to submit a new or revised dissertation or project report within a specified period;
 - (c) in any prescribed fieldwork or practical work may be permitted to present himself/herself for re-examination in fieldwork or practical work within a specified period.
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Sc31 Failure to take the examination as scheduled, normally results in automatic course failure. A candidate who is unable because of illness to be present at any examination of a course, may apply for permission to be present at some other time. Any such application shall be made on the form prescribed within seven calendar days of the examination concerned.

Discontinuation

Sc32 A candidate who

- (a) has failed to satisfy the examiners in more than half the number of credits of courses during any of the academic years or in any course at a repeated attempt, or
 - (b) is not permitted or fails to submit a new or revised dissertation or project report, or
 - (c) has failed to satisfy the examiners in their dissertation or project report at a second attempt, may be recommended for discontinuation of studies.
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Assessment results

Sc33 On successful completion of the curriculum, candidates who have shown exceptional merit may be awarded a mark of distinction, and this mark shall be recorded in the candidates' degree diploma.

Grading systems

Sc34 Individual courses shall be graded according to one of the following grading systems as determined by the Board of Examiners:

- (a) Letter grades, their standard and the grade points for assessments as follows:

Grade	Standard	Grade Point
A+	Excellent	4.3
A		4.0
A-		3.7
B+	Good	3.3
B		3.0
B-		2.7
C+	Satisfactory	2.3
C		2.0
C-		1.7
D+	Pass	1.3
D		1.0
F	Fail	0

or

- *(b) 'Pass' or 'Fail'

Courses which are graded according to (b) above will not be included in the calculation of the GPA.

*Only applies to certain courses in MSc in the field of Applied Geosciences and MSc in the field of Physics

SYLLABUSES FOR THE DEGREE OF MASTER OF SCIENCE IN THE FIELD OF FOOD INDUSTRY: MANAGEMENT AND MARKETING

For students admitted in 2023-2024 and thereafter

A. COURSE STRUCTURE

The list of courses, and their contents set out thereafter, may be changed from time to time.

Programme Structure of the Full-time Mode:	
<u>Compulsory Courses (39 credits)</u>	
FOOD7001	Quality assurance and management I (6 credits)
FOOD7006	Future food (9 credits)
FOOD7007	Marketing management (6 credits)
FOOD7008	Organisational behaviour (6 credits)
FOOD8010	Quality assurance and management II (6 credits)
FOOD8013	Business and financial strategies (6 credits)
<u>Elective Courses (12 credits)</u>	
Select any two elective courses from the following list:	
FOOD7003	Advance food technology (6 credits)
FOOD7004	Food law and waste management (6 credits)
FOOD8011	Food innovation & product development (6 credits)
FOOD8012	Food marketing strategies (6 credits)
<u>Capstone Course (12 credits)</u>	
FOOD8009	Project (12 credits) [<i>Capstone experience</i>]
Total: 63 credits	
<i>Note: If students wish to focus in the area of Food Marketing/Management, he/she should take FOOD7004 and FOOD8012. If students wish to focus in the area of Food Product/Technology, he/she should take FOOD7003 and FOOD8011.</i>	

B. COURSE CONTENTS

Compulsory Courses

FOOD7001 Quality assurance and management I (6 credits)

This course includes an overview on the practical aspects of quality management not only from consumer's, but also on all stakeholders' perspectives in managing a cost effective quality department in a multinational corporations. The application of different quality management systems by

international food corporations will be discussed. The management of food laboratory as well as international lab accreditation requirements will be introduced in this course. Students will learn the different phases of crisis management supplemented with case studies for discussion and practice. Issue management, crisis handling, product recall, post-crisis recovery will be discussed. Students will learn the skills in risk management. Troubleshooting techniques for root cause analysis during product failure including microbiological troubleshooting will be discussed. Quality / process improvement tools will be introduced.

Assessment: Course work (80%); Examination (20%)

FOOD7006 Future food (9 credits)

Due to social and consumer's demands, practical modifications in food industries are inevitable globally. Notwithstanding, the use of advanced technology, AI and urban farming has become essential worldwide. Students will learn up-to-date approaches in sustaining food retail such as resources, digital business and the use of big data, and the application of modern farming in the city. Guest lectures from local and international experts will be invited to exchange real-life experience in the current food industry.

Assessment: Course work (100%)

FOOD7007 Marketing management (6 credits)

The course is designed to provide an understanding of the role of marketing multinational business organization and its contribution to business success. Students will be introduced to different international marketing concepts, marketing programs, planning and execution of marketing strategies. On completion of the course, students will be able to analyze customer requirements, competitive environment and to formulate effective marketing program. Sharing sessions with international industry practitioners will be arranged to deliver the topics on marketing in food industry (F&B operations & marketing, food labelling tracking system, food safety management and accreditation of ISO 22000 standard to create/deliver customer value) and field work will be arranged to visit food industry settings in Hong Kong.

In addition, field work will be arranged for the students to visit the real-life food industry settings (e.g. restaurants of international management, shared kitchen, food factory plus online delivery) and they are required to apply the marketing concepts to formulate a marketing plan for these companies as part of their assessment in the course.

Assessment: Course work (60%); Examination (40%)

FOOD7008 Organisational behaviour (6 credits)

The course aims to equip students with a better understanding of the complex array of behaviours in organisational life in global entity. It will analyse the determinants of human behaviour in an organisation at the individual, group and organisational levels. Topics covered will include motivation, performance management, group dynamics, leadership, organisational culture, management of conflict, management of ethics, and the leading changes of these topics.

Assessment: Course work (70%); Examination (30%)

FOOD8009 Project (12 credits) [*Capstone experience*]

This is an individual or group research project to be carried out under the supervision of one or more faculty members in local or overseas institutions. Students may propose their own topics and approach potential supervisors, or they may consider those suggested by the faculty members. The proposed project title must be submitted for approval before starting the study. The candidate shall make a formal presentation on the subject of his/her project during the final semester of the teaching programme.

Assessment: Course work (100%)

FOOD8010 Quality assurance and management II (6 credits)

This course includes an overview on quality management focused on global food safety and risk management. Students will learn food quality and safety management, and crisis and management in food industry. Core components in GMP and other international safety standards and religious related standards (GSFI, ISO, BRC, Halal, Kosher) will be introduced in this course. Through these foundations and exercises of problem solving, students will be able to apply the knowledge in decision making of crisis and the use of modern communications for intervention.

Assessment: Course work (70%); Examination (30%)

FOOD8013 Business and financial strategies (6 credits)

This course aims to prepare the student for a successful business career with a broad understanding of the importance and complexity of strategic decisions and the way they integrate other aspects of formulating business, and financial strategy. It examines the rationale of decisions that determine the future direction and effectiveness of organizations. The perspective taken is that of the general manager – the owner, CEO, president, or further CFO. It focuses on the skills required of the general manager in diagnosing and finding solutions for critical problems in complex business situations and implementing them. Practically the course covers not only financial management, but also business/corporate-level strategies.

Assessment: Course work (60%); Examination (40%)

Elective Courses

FOOD7003 Advance food technology (6 credits)

The effects of processing and packaging on the shelf lives and changes in physical and chemical characteristics of food products will be discussed. Emphasis will be placed on the food preservation methods to extend product shelf lives as applicable to popular food products. Methods for sensitive

nutrients and techniques to preserve the characteristic aroma and taste of a product in processing and modification will be reviewed. Issues related to nutrient enrichment and fortification will be discussed. Global case studies will be used to dispel the many misplaced information on food preservations and alternatives to extending shelf life of foods without the use of the traditional food preservatives. In addition, understanding of various newly world-visionic food ingredients for health is will be introduced; reformulation to reduce sugar and fat as well as reinforcement of fibres to foods are to be discussed.

Assessment: Course work (50%); Examination (50%)

FOOD7004 Food law and waste management (6 credits)

Food laws and regulations are set out by governments bodies around the world to ensure food safety and adequate quality. The course will provide students with a proper perspective on Hong Kong, China, EU, USA and international food laws and regulations, as well as familiarisation with international agencies such as the Codex Alimentarius Commission and World Trade Organization. This course will also address current applications and limitations of food waste treatment technologies. The handling and management of food waste is an important part of the green circular economy strategy which focuses on food waste minimization, conversion and valorization. These components will be further explored, by including the social, economic, and environmental implications associated with food waste.

Assessment: Course work (60%); Examination (40%)

FOOD8011 Food innovation & product development (6 credits)

The role of research from management perspective in global corporations, the R & D process and the impact of technological innovation on the development of new products will be discussed. The impact of global issues in the direction of research and development for food corporations. The risks and opportunities of new product development for international markets. Interrelationship between product recipes, processing and food packaging in the food product development process will be discussed together with the effects of product formulations on food safety, sustainability, fair trade and business ethics will be highlighted.

Cultural aspects will be emphasized as an important consideration in developing new market frontiers. Differences between basic research and application research as applied in food product development will be deliberated along with career prospects. The difference in the product development process among food companies as compared to more established FMCG global food companies will also be discussed with case studies, together with illustrations in actual product formulations. Consumer survey and data analysis will be covered. The application of information technology in food manufacturing and catering, and the concepts of logistics in supply chain and new regulations in cold chain and food delivery will be discussed.

Assessment: Course work (70%); Examination (30%)

FOOD8012 Food marketing strategies (6 credits)

Marketing approaches and techniques applied for food products include topics such as test marketing, segmentation, positioning, branding, targeting, consumer research, and market strategy including product choice, pricing, promotion and distribution in relation to food industry. In this course, advanced knowledge of the factors specific to food effecting the global sustainability of food production and the role that innovation can play in the sector will be addressed. Appreciation of the complex and global environment in which the food business currently operates and the uncertainties and risks attached to food production will be discussed. The course cover issues and tasks that marketing managers face in dynamic marketplaces and the concepts that can be used for decision making and understand consumer behaviours towards food products sold in domestic and international market will be discussed.

Assessment: Course work (70%); Examination (30%)
