

**REGULATIONS FOR THE DEGREE OF
MASTER OF SCIENCE IN INTEGRATIVE MARINE ECOLOGY AND CONSERVATION
[MSc(IMEC)]**

For students admitted in 2025-2026 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.

Admission requirements

MIMEC1 To be eligible for admission to the courses leading to the degree of Master of Science in Integrative Marine Ecology and Conservation, a candidate

- (a) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula;
 - (b) shall hold a Bachelor's degree with honours of this University; or another qualification of equivalent standard from this University or another university or comparable institution acceptable for this purpose;
 - (c) shall satisfy the examiners in a qualifying examination if required; and
 - (d) shall possess knowledge of basic biology, ecology, and chemistry with a record of relevant coursework.
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Qualifying examination

MIMEC2

- (a) A qualifying examination may be set to test the candidate's formal academic ability to follow the courses of study prescribed. It shall consist of one or more written papers or their 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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Period of Study

MIMEC3 The curriculum 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.

Award of degree

MIMEC4 To be eligible for the award of the degree of Master of Science in Integrative Marine Ecology and Conservation, a candidate

- (a) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula; and

- (b) shall complete the curriculum and satisfy the examiners in accordance with these regulations and syllabus.

A candidate who fails to fulfil the requirements within the maximum two academic years for full-time mode of study shall be recommended for discontinuation under the provisions of General Regulation G12, except that a candidate is granted permission to extend period of study by the Board of the Faculty in accordance with Regulation MIMEC3.

Completion of curriculum

MIMEC5 To successfully complete the curriculum, a candidate shall satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula; follow courses of instruction; and satisfy the examiners in the prescribed courses and in any prescribed form of examination in accordance with these regulations set out below.

Assessments

MIMEC6

- (a) The assessment in any course shall consist of elements prescribed by the course teachers and shall comprise coursework alone or combined with examinations, with fieldwork or practical work included as prescribed by the course teachers.
- (b) The written examination, if any, for each course shall be held after the completion of the prescribed course of study for that course.
- (c) For the Dissertation and Project, a title and written proposal must be submitted before the end of the first semester. The final dissertation/project report is due not later than August of the final year.
- (d) There shall be no appeal against the results of examinations and all other forms of assessment.

MIMEC7 A candidate who has failed to satisfy the examiners

- (a) at his/her first attempt in any core course held during any of the academic years of study may be permitted to present himself/herself for re-examination/re-assessment in the course or courses at a specified subsequent examination/assessment, 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/ re-assessment in the fieldwork or practical work within a specified period; and
- (d) in an elective course will be allowed to take another elective course in lieu of the failed elective.

MIMEC 8 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

MIMEC9 A candidate may be required to discontinue his/her studies if he/she

- (a) has failed to satisfy the examiners in half or more than half the number of credits of courses during any academic year; or
 - (b) has failed in any course at a repeated attempt; or
 - (c) has exceeded the maximum period of registration.
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Grading

MIMEC10 Individual courses shall be graded according to the letter grading system as determined by the Board of Examiners. The standards and the grade points for assessment are as follows:

- (a) for all courses with the exception of “IMEC8009 Internship”:

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

- (b) “IMEC8009 Internship” will use the ‘Distinction’, ‘Pass’, or ‘Fail’ grading system and will not be included in the calculation of the GPA.
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Assessment results

MIMEC11 On successful completion of the curriculum, candidates who have shown exceptional merit at the whole examination may be awarded a mark of distinction, and this mark shall be recorded in the candidates’ degree diploma.

**SYLLABUSES FOR THE DEGREE OF
MASTER OF SCIENCE IN INTEGRATIVE MARINE ECOLOGY AND CONSERVATION
[MSc(IMEC)]**

For students admitted in 2025-26 and thereafter

The School of Biological Sciences offers a postgraduate curriculum leading to the degree of Master of Science in Integrative Marine Ecology and Conservation with a single mode: a one year full-time mode. The curriculum is designed to provide graduates with training in the principles and practices of integrative marine ecology and conservation. Candidates should possess a fundamental understanding of what is in the coastal ocean (biodiversity, fisheries), how they are exploited (seafood trade) and function (biogeochemistry), and can be conserved (conservation) for the future with progressive interventions (mariculture & restoration).

A. COURSE STRUCTURE

A candidate shall follow and be examined in at least 66 credits of courses including core courses (54 credits), capstone course (9 or 12 credits) and elective course (0 or 3 credits). Core Courses are offered in one month intensive modules, three courses sequentially in semester 1 and three courses sequentially in semester 2. The Dissertation **and Capstone Project** span both semesters.

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

Programme Structure of the Full-time Mode:		
<u>Core Courses (54 credits)</u>		
IMEC7001	Ocean biodiversity	(9 credits)
IMEC7002	Fisheries	(9 credits)
IMEC7003	Seafood: mariculture & trade	(9 credits)
IMEC7004	Conservation genomics	(9 credits)
IMEC7005	Blue carbon ecosystems	(9 credits)
IMEC7006	Sustainable development and engineering	(9 credits)
<u>Capstone Courses (9 or 12 credits)</u>		
Select one of the capstone courses:		
IMEC8007	Dissertation	(12 credits) ^A
IMEC8008	Project	(9 credits) ^{P,E}
<u>Elective Courses (0 or 3 credits)</u>		
(Depending on the capstone course taken):		
Students choosing the capstone dissertation course to fulfil the 12 credits beyond the core courses, are not required to take additional electives.		
IMEC7007	Qualitative data, social science methods and decision-making in environmental science	(3 credits) ^{A,P}
IMEC7008	Tropical and temperate marine ecology field course	(3 credits) ^A
IMEC7009	Principles of technology entrepreneurship	(3 credits) ^E
IMEC8009	Internship	(3 credits) ^{P,E}
BIOL8022	Science communication	(3 credits) ^{A,P,E}
ENVM7016	Environmental policy	(3 credits) ^P

ENVM8006	Environmental impact assessment	(3 credits) ^P
<p><i>Note: Students may choose the capstone course and electives based on their interest but we identify recommended courses for specific career tracks.</i></p> <p>^A recommended for an Academic/Research track</p> <p>^P recommended for a Policy/NGO track</p> <p>^E recommended for an Entrepreneurship/Industry track</p>		

B. COURSE CONTENTS

Core Courses

IMEC7001 Ocean biodiversity (9 credits)

This course will serve as the foundation for understanding the role of biodiversity in providing the foundation for healthy, functioning ecosystems. Coastal marine ecosystems are studied with respect to how biodiversity is measured in these systems, the functions it serves, and the major drivers of biodiversity loss. Students will develop a fundamental understanding of the foundational role of biodiversity in providing services to the environment, economy, and society.

Assessment: Course work (100%)

IMEC7002 Fisheries (9 credits)

This course will serve as the foundation for an understanding of global capture fisheries and their management and sustainability. Fish biology will be studied in the context of quantifying maximum sustainable yield, and evidence-based stock assessments of targeted species. Socio-economic considerations for the developed and developing world, with emphasis on government subsidies in the former, and food security in the latter will round out the course. Students will develop a fundamental understanding of natural fisheries exploitation and management and critically evaluate mechanisms for achieving sustainability and equity across the planet.

Assessment: Course work (100%)

IMEC7003 Seafood: mariculture & trade (9 credits)

As a natural extension to the Fisheries module, this course will highlight the past, present, and future potential and challenges facing aquaculture and global trade. Aquaculture will be studied in the context of a cost-benefit analysis with particular attention to 1) the merits of sustainable production to enhance the conservation of natural populations of exploited species and 2) the environmental costs of land and sea-based mariculture. This course will also focus on the global seafood supply chain with respect to monitoring and enforcement mechanisms. Students will develop a fundamental understanding of global seafood production and trade and how technological innovation can improve the tractability of aquaculture and traceability of seafood products to the consumer.

Assessment: Course work (100%)

IMEC7004 Conservation genomics (9 credits)

This course will provide students with the current state of the art genomics tools in addressing conservation and management of coastal ocean resources. Topics include genetic connectivity of focal species, natural selection and local adaptation across dynamic environments, and the emerging role of assisted evolution in conservation and management. The major focus will be on understanding the principles of evolutionary genomics that underlie these analyses/concepts with a focus on protocol design, limitations, and data interpretation. In collaboration with BGI, students will be presented with emerging technologies in the field and cutting edge genomic science.

Assessment: Course work (100%)

IMEC7005 Blue carbon ecosystems (9 credits)

This course will cover the fundamental concepts of coastal biogeochemistry with emphasis on the elemental cycling of carbon and other nutrients and how these cycles can be harnessed as ecosystem services with a focus on Blue Carbon/Blue Finance vehicles for investment in climate adaptation and mitigation. Examples from Blue Carbon Ecosystems (wetlands, mangroves, seagrasses) will be the focus of this course with a critical focus on major gaps that remain in translating ecosystem functions into ecosystem services and constraining uncertainties relevant to realization of fit-for-purpose financial products. Students will develop a fundamental understanding of coastal marine chemistry and cycling, while being introduced to critical socio-economic considerations for environmental, social, and corporate governance (ESG) frameworks.

Assessment: Course work (100%)

IMEC7006 Sustainable development and engineering (9 credits)

This course will focus on active restoration and engineering techniques that aim to restore healthy and productive coastal ocean environments. Students will be challenged to incorporate the foundational knowledge gained in previous courses to integrate environmental conservation goals into economic development plans. Students will be introduced to the basic concepts of sustainable development and the important role of various stakeholders, i.e., business and financial sectors, local communities, civil society, government and academia.

Assessment: Course work (100%)

Capstone Courses

IMEC8007 Dissertation (12 credits)

All students are required to undertake a capstone course as either IMEC8007 or IMEC8008. The Dissertation course is an individual, independent research project carried out under the supervision of

one or more faculty members. Students may propose their own topics and approach possible supervisors, or they may consider those topics suggested by faculty members. Normally, the student develops the research outline in collaboration with his or her Faculty advisor(s) and then collects data, carries out analysis and writes the report prior to the research colloquium where the student will present his/her work. The candidate shall make a formal presentation on the subject of his/her during the second semester of the teaching programme. Substantial work, in particular, data collection and analysis, is required in this course.

Assessment: Written report (75%) and oral presentation (25%)

IMEC8008 Project (9 credits)

All students are required to undertake a capstone course as either IMEC8007 or IMEC8008. This is a group project (2-4 students per group) to be carried out under the supervision of one or more teachers. The topic and content of the project will be agreed individually between students and the supervisor(s) which have to be endorsed by the respective course coordinator. Students may propose their own topics and approach potential supervisors, or they may consider those suggested by teachers. Apart from research projects, creative projects such as the production of field guides, books, websites, videos, apps about the environment, environmentally sustainable business models, technological innovations, and action projects such as waste upcycling; biodiversity conservation, environmental education and public campaigns are encouraged.

Assessment: Written report (75%) and group oral presentation (25%)

Elective Courses

IMEC7007 Qualitative data, social science methods and decision-making in environmental science (3 credits)

This course will introduce social science and qualitative approaches in environmental science. We will introduce the historical context and philosophical background to different approaches to environmental sciences. The course will then take a case study-based approach, using the case studies to introduce methodologies and methods. These include the ethical process, collection and analysis of qualitative and quantitative data from focus groups, surveys, interviews and questionnaires. We will also discuss wider methodologies including ethnographic approaches. Attention will be paid to suitability of methods to research questions, how studies are conducted and what analyses are used. We will also investigate how these data are or can be integrated into decision-making processes, including different tools that can be used for decision-making.

Assessment: Course work (100%)

IMEC7008 Tropical and temperate marine ecology field course (3 credits)

This course uses a field-based approach to provide students with an advanced understanding of marine and estuarine ecology in both tropical and temperate regions. Students will learn scientific techniques in Hong Kong and then apply them to compare these ecosystems in Australia, experiencing their similarities and differences. The course culminates with students developing field-based research projects to answer ecological questions, using creative and innovative thinking to overcome problems for successful outcomes.

Assessment: Course work (100%)

IMEC7009 Principles of technology entrepreneurship (3 credits)

The purpose of this course is to introduce students to the entrepreneurial process of the technology industry in general. The introductory course will go through the fundamental aspects of launching a technology entrepreneurial venture to complement the research and development activities in science and technology. It will expose students to common practices in venture development process such as opportunity identification and verification, to technology transfer and commercialization. Topics on legal subjects, e.g. intellectual properties & patent laws, and simple financing & strategic approach in the business plan will be covered. Sharing sessions by entrepreneurs will be one of the important components of this course, in order to further nurture an entrepreneurial mindset via learning from real-life examples in this specific industry of technology.

Assessment: Course work (100%)

IMEC8009 Internship (3 credits)

This course provides an opportunity for students to undertake an internship related to integrated marine ecology in universities, NGOs or commercial companies under the supervision of an experienced Practitioner or Faculty member. The student needs to work for at least 90 hours for the internship employer on either the first, second or summer semester. During the internship, the student needs to conduct a desktop study on a topic related to the internship job duties, which should be endorsed by the course coordinator. The written report for the internship shall contain a fully referenced report for the desk top study and some sharing and reflection of the internship experiences.

Assessment: Course work (100%)

BIOL8022 Science communication (3 credits)

It is increasingly urgent that scientists effectively communicate their research findings to the general public to increase scientific literacy and subvert pseudoscientific beliefs and misinformation in a 'post-fact' era. This course aims to train students to use a modern toolkit to develop effective communication of science while exploring other transferable skills related to professional development in the sciences.

Assessment: Course work (100%)

ENVM7016 Environmental policy (3 credits)

This course focuses on key aspects of environmental policy making and the policy-implementation processes, such as how policy agendas emerge and evolve, how environmental discourse shapes policy outputs; and how institutions affect the trajectories and outcomes of environmental policy measures. Making references to local, national and international cases of successful and not-so-successful policies that pertain to the sustainable development agenda, the course also examines the theories and praxis of policy transfer and policy convergence, as well as the perennial problematics of policy integration, policy learning and policy failure.

Assessment: Course work (100%)

ENVM8006 Environmental impact assessment (3 credits)

Environmental Impact Assessment (EIA) is one of the most important contemporary instruments of environmental management. Used widely around the world to identify the environment impacts of development projects as well as strategic plans and policies, EIA plays a key role in many regulatory systems for the environment. This course reviews the development of different approaches to EIA, basic analytical principles, administrative and legal systems for EIA, assessments at the project and strategic levels (SEA), and case study applications in Hong Kong.

Assessment: Course work (100%)
