



TQF3 Course Specification

Section 1 General Information

1. Course Code and Title

In Thai	ICGN 122 ชีวิตสัตว์ทะเล
In English	ICGN 122 Marine Life

2. Number of Credits

4 (3-2-7)
(Theory 3 hrs. Self-study 7 hrs Practice 2 hrs. / week)

3. Curriculum and Course Type

3.1 Program of Study Undergraduate Degree (International Program)

3.2 Course Type General Education

3.3 Please Specify Course's Literacy

- MU Literacy (Core Values, SEP, GE for Human Development)
- Health Literacy (Health, Sport)
- Digital Literacy (ICT, Applied Mathematics)
- Social and Humanity Literacy (Social, Humanity, Law, Ethics, Arts)
- Communication Literacy (language, Academic Communication)
- Science and Environmental Literacy (Applied Science for Life, Environmental Responsibility)
- Finance and Management Literacy (Finance, Management, Entrepreneur)

3.4 Please Specify Relationship between course and corporate culture

- M - Mastery รู้แจ้ง รู้จริง สมเหตุ สมผล
- A - Altruism มุ่งผลเพื่อผู้อื่น
- H - Harmony กลมกลืนกับสรรพสิ่ง
- I - Integrity มั่นคงยิ่งในคุณธรรม
- D - Determination แน่วแน่ทำ กล้าตัดสินใจ
- O - Originality สร้างสรรค์สิ่งใหม่
- L - Leadership ใฝ่ใจเป็นผู้นำ

4. Course Coordinator and Instructor

4.1 Course Coordinator Laird Allan

4.2 Instructor Laird Allan, Science Division, Mahidol University
International College, laird.all@mahidol.edu



5. Semester/Class Level

5.1 Trimester All trimesters / for all students in all International College Undergraduate Programs

5.2 Number of Students Allowed Approximately 40 students per section

6. Pre-requisite

.....none.....

7. Co-requisites

.....none.....

8. Study Site Location MUIC



Section 2 Aims and Objectives

1. Aims of the Course

- 1.1 Improve students' understanding of life in the sea.
- 1.2 Improve students' understanding of oceanic processes.
- 1.3 Develop students' comprehension of how the sea influences society and vice versa.

2. Objectives of Course Development/Revision

2.1 Course Objectives

- Learn fundamental principles of marine life and oceanic processes
- Learn fundamental knowledge of marine life and oceanic processes
- Apply fundamental understanding of marine life and oceanic processes to current issues.
- Apply key concepts to explain and analyze connections between past development and current situations, and predict future trends

The revision, if any, aims to develop the course to meet the standards of the TQF and AUN-QA framework so that students may apply the knowledge gained from this course in their daily lives and integrate the key concepts into other courses in order to approach issues and challenges from a more well-rounded perspective.

2.2 Course-level Learning Outcomes (CLOs)

By the end of the course, students are able to

1. CLO1: Students will be able to describe the structure and function of major biological and physical marine phenomena, including human impacts upon them
2. CLO2: Students will be able to explain real-world examples of the dependence of humans on marine life and oceanic processes
3. CLO3: Students will be able to apply key concepts to explain and analyze connections between past development and current situations, and predict future trends
4. CLO4: Students will be able to work effectively in groups with members from diverse backgrounds
5. CLO5: Students will be able to use technology to enhance their learning experience



Section 3 Course Description and Implementation

1. Course Description

(In Thai) ประวัติธรรมชาติสัตว์ทะเลและมหาสมุทร ประเภทของสิ่งแวดล้อมในมหาสมุทร โดยเน้นที่บริเวณชายฝั่งทะเลเขตร้อน ความสัมพันธ์ระหว่างการกระจายของสัตว์ทะเลกับสิ่งแวดล้อมทางกายภาพและทางเคมี ผลกระทบของการเปลี่ยนแปลงทางสิ่งแวดล้อมและความสัมพันธ์ของมนุษย์กับทะเล

(In English) The natural history of marine organisms and the ocean; types of environments in the ocean, with special reference to shallow tropical seas; the relations between biological distributions and the physical and chemical environment; the effects of environmental changes and the relationship between humans and the sea

2. Number of Hours Per Trimester

Theory (hours)	Practice (hours)	Self-study (hours)
36	24	84

3. Number of Hours per Week for Individual Advice

4 hours per week at 1 hour per day available at fixed schedule, and if required, students may schedule an appointment with the lecturer or walk in during office hours.



Section 4: Development of the expected learning outcomes

1. A brief summary of the knowledge or skills expected to develop in students; the course-level expected learning outcomes (CLOs)

By the end of the course, students who successfully complete the course will be able to:

 1. CLO1: Students will be able to explain real-world examples of major living and physical marine phenomena
 2. CLO2: Students will be able to describe major living and physical marine environments of Southeast Asia, including their influence on humans
 3. CLO3: Students will be able to apply key concepts to explain and analyze connections between past development and current situations, and predict future trends
 4. CLO4: Students will be able to work effectively in groups with members from diverse backgrounds
 5. CLO5: Students will be able to use technology to enhance their learning experience

2. How to organize learning experiences to develop the knowledge or skills stated in number 1 and how to measure the learning outcomes

Course Code	Teaching methods	Evaluation Methods
CLO1	- lecture, discussion, e-learning, group work, field trip	- assignments, examinations
CLO2	- lecture, discussion, e-learning, group work,	- assignments, presentations, examinations
CLO3	- lecture, discussion, e-learning	- assignments, examinations
CLO4	- discussions, e-learning, group work, peer teaching	- assignments, presentations
CLO5	- e-learning	- assignments



SECTION 5 LESSON PLAN AND EVALUATION

1. Lesson Plan

Week	Topic	Number of Hours		Teaching Activities/ Media	Lecturer
		Lecture Hours	Lab/Field Trip/Internship Hours		
1.	Introduction and the Physical World Ocean	3		Lectures, Discussions	Laird Allan
2.	Biological and Ecological Principles of Marine Life	3		Lectures, Discussions	Laird Allan
3.	Plankton and Marine Productivity	3		Lectures, Discussions	Laird Allan
4.	Mangroves and other littoral soft bottoms	3		Lectures, Discussions	Laird Allan
5.	Rocky intertidal zones	3		Lectures, Discussions	Laird Allan
6.	Coral Reefs	3		Lectures, Discussions	Laird Allan
7.	Review and Midterm Examination	3		Lectures, Discussions	Laird Allan
Sunday	Field Trip 1: Marine ecosystems of Koh Sak (Cholburi) or Khao Tao Beach & Pak Nam Pran		12	Field Study, Discussions	Laird Allan
8.	Marine Biodiversity: Invertebrates	3		Lecturers, Discussions	Laird Allan
9.	Marine Biodiversity: Fish	3		Lectures, Discussions	Laird Allan
10.	Marine Biodiversity: Air Breathers	3		Lectures, Discussions	Laird Allan
Sunday	Field Trip 2: Marine Aquarium at Burapha U. Bang Saen, Cholburi		12	Field Study, Discussions	Laird Allan
11.	Marine Resources and	3		Lectures, Discussions	



	Environmental Issues				
12.	Student Presentations	3		Presentation	
	Final Examination				
	Total	36	24		

2. Evaluation of the CLOs

2.1 Measurement and Evaluation of learning achievement

a. Formative assessment

N/A

b. Summative assessment

(1) Tool and weight for measurement and evaluation

Learning Outcomes	Assessment Methods	Assessment Ratio (Percentage)	
CLO1-5	Professionalism (Attendance, responsibility, uniform, respectfulness)	5	5
CLO1-5	Participation (field trips)	5*	5
CLO1-5	Student Presentations	20	20
CLO1-5	Midterm exam	35*	70*
	Final exam	35*	
Total			100

(2) Grading System

Grade	Achievement	Final Score (% range)	GPA
A	Excellent	90-100	4.0
B+	Very good	85-89	3.5
B	Good	80-84	3.0
C+	Fairly good	75-79	2.5
C	Fair	70-74	2.0



D+	Poor	65-69	1.5
D	Very poor	60-64	1.0
F	Fail	Less than 60	0.0

(3) Re-examination (If course lecturer allows to have re-examination)

N/A - (Not applicable with MUIC)

3. Students' Appeal

Students who would like to make an appeal on grade, examination results (scores) and/or order/action of staff must write an appeal letter to the Dean of Mahidol University International College (the form can be downloaded from the download area at www.muic.mahidol.ac.th). In the appeal letter, the following information must be specified: name of the appellant, contact information of the appellant, action or issue that student would like to make an appeal, a result of the appeal that student wants such as request for reviewing grade, request for checking scoring criteria, request for approval or withdrawal order, etc. Students also need to submit supporting documents or evidences (if any) for the appeal.

In the case that student wishes to check on the scores, student can contact the lecturer of such course and must inform him/her on the following information: name of the requestor, things that student would like to review, date and time that student would like to make an appointment for review. The course lecturer can allow student to review only the document(s) of such requestor.



Section 6 Teaching Resources

1. Required Texts

Marine Biology: Function, Biodiversity, Ecology, Jeffrey S. Levinton
An Introduction to the Biology of Marine Life, James L. Sumich
Marine Biology, Peter Castro and Michael Huber

2. Suggested Materials

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3. Other Resources (if any)

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Section 7 Evaluation and Improvement of Course Implementation

1. Strategy for Course Effectiveness Evaluation by Students
 - Student feedback of instructors, teaching methods and materials, and course content through MUIC student evaluation forms

2. Strategy for Teaching Evaluation
 - Evaluation of effectiveness based on student evaluation scores and comments
 - Evaluation through peer observations by co-instructor or other Division faculty

3. Teaching Improvement
 - Adjustments based on student feedback, personal observations, comments from peer observations and discussions with supervisor and/or other Division faculty in one-on-one and/or group meetings as specified by MUIC guidelines

4. Verification of Standard of Learning Outcome for the Course
 - Verification through student performance on assessments based on MUIC/Division standards

5. Revision Process and Improvement Plan for Course Effectiveness
 - Course instructors (and coordinator/supervisor) will meet to discuss results of student evaluations and student performance based on learning outcomes in order to identify point for improvement
 - Strategy for improvement set according to MUIC/Division guidelines



MU-GE Module LOs: At the end of studying MU-GE Module, successful students will be able to

Competences	LOs:	Sub LOs:
<p>1. Critical thinking & Analysis: Use various sources and methods to collect and manage data & information and make a logical judgement and decision to arrive at a solution or problem solving relevant to real-world issues/problems</p>	<p>1. Create & construct an argument effectively as well as identify, critique and evaluate the logic & validity of arguments</p>	<p>1. Identify concepts related to the context of learned issues/topics 2. Demonstrate ICT literacy: use appropriate technology to find, evaluate, and ethically used information 3. Collect, analyze, synthesize data, & evaluate information and ideas from multiple sources relevant to issues/problems 4. Synthesize information to arrive at logical reasoning</p>
	<p>2. Select & use techniques and methods to solve open-ended, ill-defined and multi-step problems</p>	<p>1. Apply simple mathematical methods to the solution of 'real-world' problems 2. Make judgement & decision through correct analysis, inferences, and evaluations on quantitative basis and multiple perspectives 3. Apply concept of process management to solve problems</p>
<p>2. Creativity & Innovation: Show capability to initiate alternative/ new ways of thinking, doing things or solving problems to improve his/her or team solutions/ results by applying the evidence-based process management concepts</p>	<p>3. Acquire specific strategies & skills within a particular discipline and adapt them to a new problem or situation</p>	<p>1. Connect, synthesize and/or transform ideas or solutions within a particular framework 2. Integrate alternative, divergent, or contradictory perspectives or ideas in the solution of a problem or question</p>
	<p>4. Create a novel or unique ideas, question, format, or product within a particular framework</p>	<p>1. Create an original explanation or solution to the issues/problems 2. Articulate the rationale for & consequences of his/her solution- identify opportunities & risk 3. Implement innovation through process management approach</p>
	<p>5. Explore and situate oneself in a new physical environment and intellectual perspectives</p>	<p>1. Demonstrate cultural competencies and adaptabilities in different working environments 2. Resort to multi-dimensional settings and tools to acquire knowledge and skills relevant to the problems or situation at hand</p>



Competences	LOs:	Sub LOs:
3. Global perspectives & Ethics: Express one's own ideas, interact with others, guide or lead team, as proper, as an ethically- engaged and responsible member of the society	6. act autonomously within context of relationships to others, law, rules, codes, and values	1. Demonstrate an understanding of the principles upon which sustainable ecosystems and societies are built 2. Identify the national & global challenges associated with current economic, political, and social systems 3. Exhibit characteristics of responsible citizenship 4. Work effectively in diverse team (and multi-cultural settings)
	7. Apply ethical frameworks or principles and consider their implications in his/her decision-making and interacting with others	1. Identify ethical issues and recognize different viewpoint and ideologies 2. Guide & lead others 3. Apply principles of ethical leadership, collaborative engagement, and respect diversity
4. Communication: Communicate effectively and confidently using oral, visual, and written language	8. Use a variety of means/ technologies to communicate effectively and purposefully; e.g., share information/ knowledge, express ideas, demonstrate or create individual & group product, etc.	1. Communicate/present ideas effectively both oral & written forms to appropriate audience, such as verbal discussion with peers, and written project reports. 2. Prepare a purposeful oral presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors. 3. Prepare written documents to express ideas/solutions using different writing technologies, and mixing texts, data, and images. 4. Demonstrate competence in a second or additional language
5. Collaboration and Working with team: Collaborate and work effectively with team to arrive at team goals	9. Collaborate and work effectively as part of a student group/team member to arrive at the team shared-goals in time	1. Collaborate effectively with others as a responsible team member to achieve team goals in time 2. Interact with others respectfully, either as a team member or leader, to create a productive teamwork