Course Syllabus

1. **Program of Study** Bachelor of Science (Biological Sciences)
   Faculty/Institute/College Mahidol University International College

2. **Course Code** ICBI 441
   Course Title Marine Biology

3. **Number of Credits** 4(3-2-7) (Lecture/Lab/self-study)

4. **Prerequisite *(s)*** none

5. **Type of Course** Major elective; GE (Natural Science)

6. **Trimester/Academic Year**
   3rd trimester/ every academic year

7. **Course Condition**
   Number of students is 20-30.

8. **Course Description**
   Natural history of marine animals, exclusive of protozoa and insects; types of environment in the ocean, shallow tropical seas; the relation of biological distributions to the physical and chemical environment; the effects of environmental change; the application of ecological techniques to local problems; field survey with laboratory exercises included.

9. **Course Objective *(s)***
   By the end of the trimester, the students should be able to
   1. Understand the natural history of marine animal.
   2. Understand the types of environment in the ocean, shallow tropical seas; the relation of biological distributions to the physical and chemical environment
   3. Understand the effects of environmental change.
   4. Understand the application of ecological techniques to local problems.

10. **Course Outline**

week	Topics/Seminar	Hours			Instructor
		Lecture	Lab	Self-study	
1	Introduction, Physical Oceanography: ocean geography	3	2	7	Laird Allan
2	Physical Oceanography: seawater, water movements	3	2	7	Laird Allan
3	Marine Primary Production: algae and plants	3	2	7	Laird Allan
4	Marine Secondary Production: microzooplankton	3	2	7	Laird Allan
5	Marine Biomes: littoral, neretic zone	3	2	7	Laird Allan
6	Review, Midterm Exam	3	2	7	Laird Allan

7	Field Trip (marine lab, coral, beach), Marine Biomes: pelagic and abyssal,	3	2	7	Laird Allan
8	Marine Invertebrates: poriferans, cnidarians	3	2	7	Laird Allan
9	Marine Invertebrates: echinoderms, molluscs	3	2	7	Laird Allan
10	Marine Vertebrates: fish, reptiles, mammals, birds	3	2	7	Laird Allan
11	Student Presentations, Review	3	2	7	Laird Allan
Final Examintion					
	Total	33	22	77	

11. Teaching Method *(s)*

1. Lectures, demonstrations, laboratories and field trip
2. Student term papers and presentations

12. Teaching Media

1. Powerpoint Presentations
2. Texts and teaching materials
3. Field and lab equipment

13. Measurement and Evaluation of Student Achievement

Student achievement is measured and evaluated by

13.1 The ability to describe the natural history of marine animal.

13.2 The ability to explain the types of environment in the ocean, shallow tropical seas; the relation of biological distributions to the physical and chemical environment

13.3 The ability to explain the effects of environmental change.

13.4 The ability to apply the ecological techniques to local problems.

Assessment by standard criteria:

Students must attend at least 80% of the total class hours of this course.

Ration of mark

Class participation	10
Midterm Exam	25
Final Exam (cumulative)	40
Lab and Field work	10
Term Papers and Presentations	15
TOTAL	100

14. Course evaluation

14.1 Students' achievement as indicated in number 13 above.

14.2 Students' satisfaction towards teaching and learning of the course using questionnaires.

15. Reference *(s)*

Levinton, J.S. Marine biology: Function, diversity, ecology. UK. Oxford University Press. 1995.

Sumich, J.L. and Morrissey, J.F. Introduction to the biology of marine life, 7th Edition. USA. Jones and Barette. 1999.
Haefner, Jr., P.A. Exploring marine biology: Laboratory and field exercises. UK. Oxford University Press.1996.

16. Instructor *(s)*

Laird Allan
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17. Course Coordinator

Laird Allan