UNIVERSITY GRADUATE PROGRAMS
SILLIMAN UNIVERSITY
DUMAGUETE CITY

MASTER OF SCIENCE IN MARINE BIOLOGY

(Revised First Semester of SY 2009-10)

Admission Requirements

1. Bachelor of Science degree in Biology and related fields
2. Filled application forms and other required documents.

UNIVERSITY REQUIREMENTS	IEMS REQUIREMENTS
University Application Form (with attached photo)[1,2]	IEMS Application Form (with attached photo)[2]
Transfer Credentials (Honorable Dismissal) from: last college/university attended	Reference Forms[2,4] (Filled up by two former teachers while taking Bachelor's degree)
Transcript of Records (original)	Transcript of Records
Two letters of recommendation from prominent members of the community	Concept paper on possible thesis topics[5]
NSO Birth Certificate	Interview with IEMS representative[6]
Medical Certificate from SU Medical Center Foundation[3]	

[1] Can be downloaded from University Website: www.su.edu.ph; available at the University Registrar's Office and University Graduate Programs Office.
[2] Forms available at IEMS by sending an email to IEMS (janetestacion2010@gmail.com or suml_lib@yahoo.com)
[3] Medical Certificate can be submitted one month after first enrollment.
[4] Student can provide names of two referees and their email addresses so the forms can be sent directly to the referees.
[5] Concept paper should include significance of the study (showing research gaps in the proposed topic and research objectives
[6] Student should bring above requirements during the interview (Referee Forms excluded unless brought by the student in a sealed envelop with the referee's signature across the flap).

Acceptance Requirements

Students must pass the interview with an IEMS representative. Students who are deemed unprepared to directly commence with their graduate subjects can be accepted on a conditional basis. They may be required to take undergraduate deficiency subjects or English classes where a rating of 2.5 or better is required.
Before commencing the degree, the student must determine his/her area of study. An adviser will guide the student through his/her program. Acceptance to the program does not guarantee admission to candidacy for the degree. All students must apply for the degree after submitting the required copies of their thesis.

Grade and Other Requirements

All graduate courses must have a minimum grade of 3.0 or better. Students with INC ('incomplete') grades must complete their requirements within a year otherwise an automatic failing grade will be given and will be required to re-enroll the same subject (core courses). For major/elective subjects, students may opt to re-enroll in the same course or select a new one.
All MS and PhD students of IEMS are required to conduct a seminar (to be presented during the IEMS Friday seminars). Masters students are required to have one seminar presentation (to be presented during the second semester of their first year) and PhD students, two presentations (one to be presented on the second semester of their first year and during the second year). Students are also required to attend lectures of visiting scientists and other posted lectures and presentations.
Students are required to be familiar with the IEMS student policies as well as University policies for graduate students. Copies are available with the IEMS Librarian.

Comprehensive Examinations

[*] The MS in Marine Biology curriculum is a consortium offering of the Federation of Institutions in Marine and Freshwater Sciences (FIMFS). The consortium is composed of University of San Carlos (Cebu City), Mindanao State University at Naawan, Mindanao State University-Iligan Institute of Technology, Mindanao State University at Marawi, Mindanao State University at Tawi-Tawi and Leyte State University. Subjects taken from these institutions will be credited to the program. For further queries, contact DR. JANET ESTACION, IEMS Graduate Programs Coordinator janetestacion2010@gmail.com or MS. ANALISA ESCOBAR <suml_lib@yahoo.com>

After the successful completion of the 30 units (10 subjects) of academic courses, the student signifies his/her readiness to take the written comprehensive exams by setting a schedule with the IEMS Graduate Programs Coordinator. There will be five exams which will cover Introduction to Research and Biostatistics, Physical Oceanography, Chemical Oceanography, Biological Oceanography and one major subject. The student must pass all five examinations. In case of failure, the student must retake the exam(s) immediately. Students cannot proceed with colloquium until he/she passed all comprehensive exams. Comprehensive exams can only be repeated once; otherwise students will be required to re-enroll in the subject he/she failed. Students taking comprehensive exams will pay a fee of Php 400 per subject.

Master's Thesis

After passing all comprehensive exams, the student writes a letter to the IEMS Graduate Programs Coordinator indicating the title of the thesis and his/her thesis adviser (who signifies his/her acceptance of the student as an advisee in the letter). The student then prepares the thesis proposal with the adviser. When the adviser approves the proposal, the student prepares for the proposal defense or colloquium.

Before scheduling the colloquium, the student, adviser and IEMS Graduate Programs Coordinator will agree on the three members of the thesis panel. The student then submits a copy of the proposal to the panel at least one week before the scheduled presentation. During the colloquium, the student presents a summary of the following: introduction, review of literature, theoretical framework, objectives, hypothesis, scope and limitations, and methods (including statistical analysis). The student is given 30 minutes to present the proposal. Depending on the extent of revisions, the panel may recommend the student to work closely with the adviser and proceed to data collection or to present the revised proposal again to the panel before proceeding with data collecton.

After data collection, analysis and writing, the student will present his/her results to the same panel during preliminary defense (pre-orals). The draft, which must be approved by his/her adviser, must be given to the panel a week before presentation. The panel may require a final oral defense where the student presents the thesis with its revisions or if satisfied with the entire thesis, they may waive the final thesis presentation.

Graduation Requirement

The student will be allowed to graduate only after the submission of the required number of bound copies to the University Graduate Programs Office.

Core Courses (15 units)		
MB 101	Elements of Research	3
MB 102	Biological Oceanography	3
MB 103	Physical Oceanography	3
MB 104N	Chemical Oceanography	3
MB 105	Biostatistics	3
Major Courses (9 units)		
MB 110	Principles of Systematics and Evolution	3
MB 111	Anatomy and Physiology of Marine Plants and Algae	3
MB 112	Anatomy and Physiology of Marine Animals	3
Electives (6 units)		
MB 120	Advanced Invertebrate Biology	3
MB 121	Genetics of Marine Organisms	3
MB 122	Marine Methodology	3
MB 123	Marine Productivity	3
MB 125	Fisheries of Biology	3
MB 126	Marine Microbiology	3
MB 127	Marine Benthic Communities	3
MB 128	Ichthyology	3
MB 129	Marine Mammalogy	3
MB 130	Marine Resource Management	3
MB 132	Marine Plankton	3
MB 133	Economics of Marine Ecosystems	3
MB 134	Special Topics in Marine Biology	3
MB 135	Biology of Coral Reef	3
Masters Thesis		
MB 300	Masters Thesis	6
	Total Number of Units	**36**

Course Description

MB-101 ELEMENTS OF RESEARCH

Theoretical and practical introduction to organized investigations; correct method of gathering pertinent data and evaluations of results.

MB-102 BIOLOGICAL OCEANOGRAPHY

Biological systems and processes in the sea; the structure of marine ecosystems and the biological flow of energy and matter under various natural and man-made factors; major emphasis on systems ecology, synecology, population ecology, and physiological ecology.

MB-103 PHYSICAL OCEANOGRAPHY

Comparative descriptions and physical dynamics of the oceans; theories of energy transmissions and the resultant motions such as currents, waves, and tides; instrumentation in oceanographic investigations.

MB-104N CHEMICAL OCEANOGRAPHY

Chemical constituents of seawater and the various analytical techniques used to determine their concentration: emphasis on salinity, major and minor elements, macro and micro- nutrients, dissolved and particulate organic and inorganic substances; equilibrium processes which qualitatively and quantitatively affect them.

MB 105-BIOSTATISTICS

MB 110 PRINCIPLES OF SYSTEMATICS AND EVOLUTION

MB-111 ANATOMY AND PHYSIOLOGY OF MARINE PLANTS AND ALGAE

Biochemical and molecular basis of heredity and biotechnology.

MB-112 Anatomy and Physiology of Marine Animals

MB 120 Advanced Invertebrate Biology

MB 121 Genetics of Marine Organism

MB-122 MARINE METHODOLOGY

Methods and techniques in marine biological research or in oceanographic work.

MB-123 MARINE PRODUCTIVITY

Principles of primary productivity with emphasis on photosynthesis, chemosynthesis, respiration, growth, biomass, chlorophyll and methods of measurement.

MB-125 FISHERIES BIOLOGY

Biology, population dynamics and stock assessments of the living resources of the sea and man's interaction with them.

MB-126 MARINE MICROBIOLOGY

Marine microorganisms with emphasis on their role in the degradation and recycling of nutrients in the marine ecosystems and biotechnological applications of some important forms.

MB-127 MARINE BENTHIC COMMUNITIES

MB-128 ICHTHYOLOGY

MB-129 MARINE MAMMALOGY

MB-130 MARINE RESOURCE MANAGEMENT

Principles of marine resource conservation, rational utilization, protection and management of the marine environment; conservation laws.

MB-132 MARINE PLANKTON

MB-133 ECONOMICS OF MARINE ECOSYSTEMS

MB 135 BIOLOGY OF CORAL REEFS

MB 300 THESIS WRITING

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