



Iligan Institute of Technology
of the Mindanao State University
Quality Education for a better Mindanao

MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE

Introduction

Environmental degradation is a glaring feature in the biosphere in the Twenty -first Century, and must be addressed seriously before the worst effects would be felt particularly by human beings. Being the premier school in southern Philippines mandated to contribute to the development of MINSUPALA, the Mindanao State University through its Iligan Institute of Technology Campus must take heed to the demands of the time. It is but imperative for the MSU-Iligan Institute of Technology to meet this demand primarily because the campus is situated in a city where several industries and a growing human population are exerting strong pressures on the environment. The concern of MSU-IIT, however, is not limited to its local environment but to the entire region of Mindanao, Sulu and Palawan because irrational and unsustainable use of the environment is getting more prevalent in these regions. These realities have given impetus to MSU-IIT to develop a graduate program (masteral level) that proactively caters to problems related with the environment. Guided by MSU-IIT's mandate of instruction, research and extension, the program is envisioned to contribute to solving multi-faceted environmental problems. With options to major in either Environmental Research, Environmental Education, or Environmental Planning and Management, the M.S. in Environmental Science is so timely because several environment-related government agencies, e.g. the Department of Environment and Natural Resources, Department of Health, and the Department of Agriculture, Bureau of Fisheries and Aquatic Resources and some higher education institutions, are gearing up towards high levels of efficiency and competence in their personnel. The M.S. in Environmental Science is expected to provide an advanced and cutting-edge training to this clientele. At present, MSU at Naawan and the College of Forestry of MSU Marawi are implementing an undergraduate program in Environmental Science. Graduates from this program may proceed to enroll in the M.S. in Environmental Science, particularly those who are keen at getting an advanced level of training in environmental science. Long term sustainability of this graduate program is ensured by the fact that there is an existing strength and commitment in several faculty members from participating departments within MSU-IIT and the MSU System.

Objectives

The M.S. in Environmental Science is an interdisciplinary program. It aims to:

1. Provide an advanced formal manpower training for instruction and research capabilities in the various areas of environmental education, research, and planning and management, and
2. Fill up the need for highly trained personnel in the government, private industries and academic sectors in the MINSUPALA Region.

Admission Requirements

1. B.S. degree from a recognized higher education institution, with a grade point average (GPA) of 2.5 (or its equivalent) or better, plus the following requirements for each program specialization:
 - a. Environmental Education
 - i. At least 12 units of natural sciences in the baccalaureate degree;
 - ii. Background in Educational Psychology, Methods in Teaching, General Botany, General Zoology, and General Chemistry.
 - b. Environmental Research

- i. A baccalaureate degree in the natural sciences (biology, chemistry, etc.).
- c. Environmental Planning and Management
 - i. A baccalaureate degree in engineering or in the natural sciences.

2. Two letters of recommendation from former professors/immediate supervisor attesting to the student's capacity for advanced studies; and

3. Satisfaction of the School of Graduate Studies'/institute's admission requirements.

Course Requirements

A minimum of 39 graduate units (32 course work, 1 seminar and 6 thesis) are required.

A. Core Courses (17 units)

EnSc 201	Principles of Environmental Science	3 units
EnSc 202	Environmental Laws and Policies	1 unit
EnSc 203	Resource Management and Conservation	3 units
EnSc 206	Environmental Impact Assessment	4 units
EnSc 298	Research Methodology	3 units
Stat 233	Biostatistics	3 units

B. Major Courses (15 units)

Specialization: Environmental Education

(Nine units of the following required courses plus 6 units of free electives)

Bio 221	Advanced Ecology	3 units
EnSc 220	Environmental Geology	3 units
EnSc 236	Environmental Education	3 units

Specialization: Environmental Research

(Nine units of the following required courses plus 6 units of free electives. Qualified students who would be focusing on either Chemistry or Biology are required to enroll in elective courses relevant to their focus discipline.)

EnSc 240	Environmental Physiology and Toxicology	3 units
EnSc 248	Environmental Evaluation and Monitoring	3 units
Chem 281	Advanced Environmental Chemistry	3 units

Specialization: Environmental Planning and Management

(Nine units of the following required courses plus 6 units of free electives)

EnSc 260	Man and His Environment	3 units
EnSc 264	Environmental Planning and Management	3 units
EnSc 268	Environmental Management Through Community Development	3 units

C. Graduate Seminar (1 unit)

EnSc 296	Graduate Seminar	1 unit
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D. Master's Thesis (6 units)

EnSc 299	Master's Thesis	6 units
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Other Requirements

1. Maintenance of a weighted average of 2.0 or better while in the program.
2. Passing the comprehensive exam after the completion of all academic courses.
3. Completion and oral defense of a thesis.
4. Submission of 6 bound copies of the approved thesis.

List of Elective Courses

EnSc	226	Elementary Geography	3 units
EnSc	230	Climatology	3 units
EnSc	244	Analytical Techniques in Environmental Science	3 units
EnSc	252	Pollution Prevention	3 units
EnSc	254	Principles of Waste Management	3 units
EnSc	256	Wastewater Treatment	3 units
EnSc	280	Resource Use and Development	3 units
EnSc	284	Forest and Watershed Management	3 units
Bio	223	Terrestrial Ecology	3 units
Bio	224	Freshwater Ecology	3 units
Chem	281	Advanced Environmental Chemistry	3 units
MB	221	Advanced Marine Ecology	3 units
Ocea	201	Fundamentals of Biological, Chemical and Physical Oceanography	3 units

[Courses offered under the Master of Engineering (major Environmental Engineering), M.S. and Ph.D. in Chemistry, M.S. and Ph.D. in Biology may be taken as electives.]

MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE (M.S. Envi. Sci.)
(LIST OF COURSES BY SEMESTER)

First Year, First Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
EnSc 201	Principles of Environmental Science	3	2	3	5	
EnSc 202	Environmental Laws and Policies	1	1	0	1	
EnSc 298	Research Methodology	3	3	0	3	Undergraduate Biostatistics
Stat 233	Biostatistics	3	3	0	3	
	Total	10	9	3	12	

First Year, Second Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
EnSc 203	Resource Management and Conservation	3	3	0	3	
Elective 1		3				
Elective 2		3				
Elective 3		3				
	Total	12				

First Year, Summer

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
EnSc 206	Environmental Impact Assessment	4	2	6	8	
	Total	4	2	6	8	

Second Year, First Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
Elective 4		3				
Elective 5		3				
EnSc 296	Graduate Seminar	1	1	0	1	
	Total	7				

Second Year, Second Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
	(Comprehensive Examination)					
	(Thesis Proposal Defense)					
	Total					

Third Year, First Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
EnSc 299	Master's Thesis	6				
	Total	6				

Third Year, Second Semester

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec	Lab	Total	
EnSc 299	Master's Thesis					
	(Thesis Defense)					
	Total					