DUAL DEGREE PROGRAM REQUIREMENTS

MS ENVIRONMENTAL ENGINEERING (MEN) & MS ENVIRONMENTAL RESOURCES MANAGEMENT (MS ERM)

MIT-PHILIPPINES AND CNU-TAIWAN

A] For Mapua MEN Students to get MS ERM at CNU

A minimum of 32 credit units is required. Of these, 22 units are required academic courses (i.e., inclusive of 6 units Thesis and 2 units Seminar Course), 10 credit units of Elective Courses. A total of 20 and 12 credit units to be enrolled in MIT and CNU, respectively. At least 3 credit units of Elective Course shall be enrolled in MIT. A final oral examination is mandatory.

A] Required Academic Courses

Course Code	Course Title	Credit	Course Status	Care Taker
ENV220	Physical Principles of Environmental Engineering	3	Rqd	MIT
ENV221	Chemical Principles of Environmental Engineering	3	Rqd	MIT
ENV222	Biological Principles of Environmental Engineering	3	Rqd	MIT
ENV223P	Analytical and Numerical Principles of Environmental Processes	3	Rqd	MIT
ENV225L	Environmental Engineering Laboratory	2	Rqd	MIT
	Research Techniques with Statistical Methods	3	Rqd	MIT
	Practical Issues	2	Rqd	CNU
	Thesis 1	3	Rqd	CNU
	Thesis 2	3	Rqd	CNU
	Total Required Courses	22		
ELECTIVE COURSES (Should enroll at least 3 and 7 credit units elective courses at MIT and CNU, respectively)				
	Special Topics on Management Philosophy	2	Opt	CNU
	Applied Statistics	2	Opt	CNU
	Scientific Thesis Writing and Research	2	Opt	CNU
	Greenhouse Gases Management and its Real Applications	3	Opt	CNU
	Special Topics on Climate Change	3	Opt	CNU
	Low Carbon Technology and its Real Applications	**3**	Opt	CNU
	Life Cycle Management	3	Opt	CNU
	Green Energy and its Management	3	Opt	CNU
	Low Carbon Consumption and Behavior	3	Opt	CNU

	Environmental System Analysis	3	Opt	CNU
	Green Innovation and its Real Applications	3	Opt	CNU
	Environmental Project Management	3	Opt	CNU
	Resources Management and its Real Applications	3	Opt	CNU
	Special Topics on Water Resources Management	3	Opt	CNU
	Biological Diversity Resource and its Real Application	3	Opt	CNU
	Chemicals Management	3	Opt	CNU
	Environmental Management System and Certification in Real Application	3	Opt	CNU
	Special Topics on Industrial Ecology	3	Opt	CNU
	Environment and Resource Issues in Global Perspectives	3	Opt	CNU
	The Distribution and Fate of Environmental Contaminations	3	Opt	CNU
	Special Topics on Environmental Remediation Technology and Management	3	Opt	CNU
ENV240	Physicochemical Process Design	3	Opt	MIT
ENV241	Biological Process Design	3	Opt	MIT
ENV250	Advanced Treatment and Remediation Processes	3	Opt	MIT
ENV253	Solid and Hazardous Waste Management	3	Opt	MIT
ENV260	Surface Water and Groundwater Flow	3	Opt	MIT
ENV261	Fate and Effects of Contaminants in Surface Water and Groundwater	3	Opt	MIT
ENV270	Air Pollution Physics and Chemistry	3	Opt	MIT
ENV272	Air Pollution Control	3	Opt	MIT
ENV284	Environmental Engineering Modeling	3	Opt	MIT
ENV290	Public Health Engineering	3	Opt	MIT
ENV291	Basic Environmental Toxicology	3	Opt	MIT
	Total Elective Courses	10		

Rqd means required; Opt means optional

B] For CNU MS EES Students to get MEN in MIT

A minimum of 32 credit units is required. Of these, 22 units are Required Academic Courses (among which is the ENV223P to be taken in MIT, 6 units Thesis, and 2 units Seminar Course to be taken in CNU), and 10 credit units Elective Courses. A total of 20and 12 credit units to be enrolled at CNU and MIT, respectively. A final oral examination is mandatory.

Course Code	Course Title	Credit	Course Status	Care Taker
ENV223P	Analytical and Numerical Principles of Environmental Processes	3	Rqd	MIT
	Practical Issues	2	Rqd	CNU
	Thesis 1	3	Rqd	CNU
	Thesis 2	3	Rqd	CNU

	Total Required Courses	11		
ELECTIVE COURSES (Should enroll in 9 credit units of among the elective courses in MIT, other elective courses shall be enrolled in CNU)				
ENV220	Physical Principles of Environmental Engineering	3	Rqd	MIT
ENV221	Chemical Principles of Environmental Engineering	3	Rqd	MIT
ENV222	Biological Principles of Environmental Engineering	3	Rqd	MIT
ENV225L	Environmental Engineering Laboratory	2	Rqd	MIT
ENV253	Solid and Hazardous Wastes Management	3	Opt	MIT
ENV250	Advanced Treatment and Remediation Processes	3	Opt	MIT
ENV261	Fate and Effects of Contaminants in Surface Water and Groundwater	3	Opt	MIT
ENV272	Air Pollution Control	3	Opt	MIT
ENV290	Public Health Engineering	3	Opt	MIT
ENV291	Basic Environmental Toxicology	3	Opt	MIT
	Special Topics on Management Philosophy	2	Opt	CNU
	Applied Statistics	2	Opt	CNU
	Scientific Thesis Writing and Research	2	Opt	CNU
	Greenhouse Gases Management and its Real Applications	3	Opt	CNU
	Special Topics on Climate Change	3	Opt	CNU
	Low Carbon Technology and its Real Applications	**3**	Opt	CNU
	Life Cycle Management	3	Opt	CNU
	Green Energy and its Management	3	Opt	CNU
	Low Carbon Consumption and Behavior	3	Opt	CNU
	Environmental System Analysis	3	Opt	CNU
	Green Innovation and its Real Applications	3	Opt	CNU
	Environmental Project Management	3	Opt	CNU
	Resources Management and its Real Applications	3	Opt	CNU
	Special Topics on Water Resources Management	3	Opt	CNU
	Biological Diversity Resource and its Real Application	3	Opt	CNU
	Chemicals Management	3	Opt	CNU
	Environmental Management System and Certification in Real Application	3	Opt	CNU
	Special Topics on Industrial Ecology	3	Opt	CNU
	Environment and Resource Issues in Global Perspectives	3	Opt	CNU

	The Distribution and Fate of Environmental Contaminations	3	Opt	CNU
	Special Topics on Environmental Remediation Technology and Management	3	Opt	CNU
	Total Elective Courses	10		

NOTE:
Recommended stay of students in CNU and Mapua is one year. Final thesis manuscript shall be written in English. Professors who supervise the research of the students are encouraged to be present during the defense. Students pay all required fees at their home institution. Students are encouraged to publish at least one scientific paper. CNU students are required to attend Seminar/Research Colloquium at Mapua.