



Mindanao University of Science and Technology

College of Engineering and Architecture

Graduate Program

MASTER OF ENGINEERING in CIVIL ENGINEERING

Curriculum

Effective SY 2016-2017

Course	Course Description	Credit Units
Core Courses (9 units)		
MEP 501	Applied Optimization and Linear Models	3
MEP 502	Computational Methods for Engineers	3
MEP 503	Mathematical Modelling and Applications	3
MEP 504	Advanced Engineering Math 1	3
MEP 505	Advanced Engineering Math 2	3
MEP 506	Advanced Numerical Methods	3
MEC 520	Computer Methods of Structural Analysis (Computer Programming)	3
Major Courses (21 units)		
A. Structural Engineering		
MEC 511	Structural Dynamics	3
MEC 512	Advanced Concrete Technology	3
MEC 513	Finite Element Methods in Engineering	3
MEC 514	Wind and Earthquake Engineering	3
MEC 515	Experimental Methods in Structural Engineering	3
MEC 516	Advanced Steel Structures	3
MEC 517	Advanced Concrete Structures	3
MEC 518	Advanced Topics in Bridge Engineering	3
MEC 518	Selected Topic: Repair and Maintenance	3
MEC 519	Structural Engineering Analysis	3
B. Water Engineering and Management		
MEC 530	Watershed Hydrology	3
MEC 531	Water Resources Systems	3
MEC 532	Concepts in Water Modelling	3
MEC 533	Water Supply and Sanitation	3
MEC 534	River Engineering and Modelling	3
MEC 535	Planning and Development of Hydropower	3
MEC 536	Coastal Zone Management	3
MEC 537	Groundwater Development and Management	3
MEC 538	Land and Water Conservation and Management	3

Course	Course Description	Credit Units
MEC 539	Integrated Water Resources Management	3
MEC 540	Modelling of Water Resources Systems	3
C. Construction Management		
MEC 551	Infrastructure System Analysis and Management	3
MEC 552	Legal and Contractual Risk Management	3
MEC 553	Occupational Safety & Health Management in Construction Projects	3
MEC 554	Quality Management in Construction	3
MEC 555	Applied Project Management in Public Infrastructure	3
MEC 556	Advanced Construction and Field Techniques	3
D. Geotechnical Engineering		
MEC 561	Foundation Engineering and Design	3
MEC 562	Ground Improvement Techniques	3
MEC 563	Soil Dynamics and Earthquake Engineering	3
Graduate Electives (maximum of 6 units)		
MEP 551	Industrial Ecology	3
MEP 552	Solid and Hazardous Waste Management	3
MEP 553	Environmental Sustainability and Economics	3
MEP 556	Energy, Environment and Climate Change: Issues and Strategies	3
MEP 558	Environmental Economics	3
MEP 560	Rational Use of Energy in Buildings	3
MEP 562	Community and Climate Adaptation	3
MEP 563	Land Use and Climate Change	3
MEP 564	Clean Development Mechanism: Principles and Practices	3
MEP 565	Climate Change and Adaptation in Water Sector	3
THESIS		
MEC 601	Thesis 1	6
MEC 602	Thesis 2	6

Summary of Units

Core Courses	9 units
Major Courses	21units
Electives	6 units
Master's Thesis	12
TOTAL	48 units

Notes:

1. Major courses taken in excess of the required 21 units can be applied in lieu of electives.
2. Maximum of 6 units of elective courses credited towards the degree.
3. Electives taken in excess of 6 units cannot be applied to cover any deficiency in core and major courses.