



**Mindanao University of Science and Technology**  
**College of Engineering and Architecture**  
**Graduate Program**

**MASTER OF ENGINEERING in MECHANICAL ENGINEERING**

**Curriculum**

**Effective SY 2016-2017**

<b>Course</b>	<b>Course Description</b>	<b>Credit Units</b>
<b>Core Courses (9 units)</b>		
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
MEP 507	Computer Programming for CE	3
<b>Major Courses (21 units)</b>		
MEM 511	Combustion and Mass Transfers	3
MEM 512	Thermal Systems	3
MEM 513	Heat and Mass Transfers	3
MEM 514	Foundations of Solid Mechanics	3
MEM 515	Finite Element Analysis for Mech. and Aero Design	3
MEM 516	Mechanics of Composite Structures	3
MEM 517	Elasticity, Plasticity and Fracture	3
MEM 518	Gas Dynamics	3
MEM 519	Advanced Heat Conduction	3
MEM 520	Advanced Heat Convection	3
MEM 521	Advanced Heat Radiation	3
MEM 522	Two-phase Flow and Heat Transfer	3
MEM 523	Advanced Thermodynamics	3
MEM 524	Energy Conversion Systems	3
MEM 525	Advanced Refrigeration	3
MEM 526	Advanced Air Conditioning and Ventilation	3
MEM 527	Lubrication Theory and Design	3
MEM 528a	Solar Thermal Energy Systems and Design	3
MEM 528b	Refrigeration and Air conditioning Design	3

Course	Course Description	Credit Units
MEM 529	Economic Decisions in Industrial Management	3
MEM 530	Mechatronics	3
MEM 531	Machine Learning	3
MEM 532	Thermal Science Applications in Power Engineering	3
<b>Electives</b>	<b>(maximum of 6 units)</b>	
MEP 551	Industrial Ecology	3
MEP 552	Solid and Hazardous Waste Management	3
MEP 553	Environmental Sustainability and Economics	3
MEP 554	Development and Evaluation of Energy Projects	3
MEP 555	Energy Resources and Technologies	3
MEP 556	Energy, Environment and Climate Change: Issues and Strategies	3
MEP 557	Power Sector Management under Deregulation	3
MEP 558	Environmental Economics	3
MEP 559	Environmental Policy and Management of Energy Systems	3
MEP 560	Rational Use of Energy in Buildings	3
MEP 561	Clean Coal Technologies and Carbon Capture and Sequestration	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
MEP 566	Climate Change and Sustainable Development Workshop	3
<b>THESIS</b>		
<b>MEM 601</b>	<b>Thesis 1</b>	<b>6</b>
<b>MEM 602</b>	<b>Thesis 2</b>	<b>6</b>

### Summary of Units

Core Courses	9 units
Major Courses	21units
Electives	6 units
Master's Thesis	12
<b>TOTAL</b>	<b>48 units</b>

### 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.