

## VISION OF CENTRAL MINDANAO UNIVERSITY

An academic paradise of higher learning actively committed to the total development of people for a globally sustainable environment and a humane society.

### MISSION

To advance the frontiers of knowledge for economic prosperity, moral integrity, social and cultural sensitivity, and environmental consciousness through equitable access to quality instruction, research, extension and production.

## VISION OF THE COLLEGE OF ENGINEERING

In consonance with the mission of the University, it is envisioned that the College shall serve as the Center of Excellence in Agro-Industrial Technology in Mindanao.

### MISSION

The CMU-College of Engineering shall provide excellent baccalaureate and post-baccalaureate engineering degree and non-degree programs. It shall generate new knowledge and technologies by conducting basic and applied agro-industrialist researches; develop, evaluate, package and disseminate engineering technologies to accelerate the agro-industrial development in Mindanao in particular and the Philippines in general.

### INTRODUCTION:

The province of Bukidnon is fast developing into a major business center in the heartland of Mindanao over the last ten years. This increasing industrialization in the province of Bukidnon demands higher level of safety of the built environment and engineering professionals to cope with the increasing sophistication of processes and system in industries. Thus, engineering professionals must adapt to these rapid changes by acquiring higher level of scientific and technical know-how.

In this context, the departments of Civil, Electrical and Mechanical Engineering departments of the College of Engineering is offering the Master of Engineering Program with major specialization in the field of Civil, Electrical and

Mechanical Engineering. This program is primarily designed to provide engineering practitioners with advance technical knowledge to cope with the increasing sophistication of processes and systems in industries and built environment. It provides broad knowledge in advanced civil, electrical and mechanical engineering subjects with emphasis on recent developments on their applications in solving various engineering problems. It also provides broad background in advanced engineering mathematics, recent energy and environment issues and management engineering.

### OBJECTIVES:

The objectives of the MOE program are as follows:

1. Provide competent and high level engineering professionals needed by industries and agencies in both the private and public sectors,
2. Develop engineering professionals to be grounded in appropriate advanced engineering concepts and principles in order to solve various complex technical problems and
3. Upgrade the faculty members of engineering schools in Mindanao in order to teach higher level of undergraduate and graduate engineering courses.

### The Curriculum

Core Courses	24 units
Major Courses/Discipline-related	18 units
Research Courses	<u>4 units</u>
<b>Total</b>	<b>46 units</b>

#### Core Courses

ES 200: Advanced Engineering Mathematics  
ES 204: Probability and Statistical Concepts in Engineering and Design  
ES 207: Operations Research for Engineers  
ES 208: Energy and Environment  
ES 213: Numerical Methods for Engineers  
ES 219: Engineering Operations Management  
ES 220: Research Techniques in Engineering

ES 224: Management Information System

#### Civil Engineering Courses

CE 220: Advanced Reinforced Concrete Design  
CE 221: Load and Resistance Factor Design of Steel  
CE 222: Computer Methods of Structural Analysis  
CE 230: Value Engineering in Construction  
CE 240: Transportation Systems  
CE 241: Intelligent Transportation Systems  
CE 242: Geometric Design of Highways  
CE 250: Fundamentals of Engineering Geology  
CE 251: Advanced Soil Mechanics  
CE 252: Advanced Foundation Engineering  
CE 260: Fundamentals of Geo-environmental Engineering  
CE 261: Solid Waste Engineering and Management  
CE 270: Advanced Fluid Mechanics  
CE 271: Hydraulic Structure Design  
CE 272: Advanced Engineering Hydrology  
CE 273: Free Surface Flow  
CE 280: Water Supply Quality Management  
CE 281: Wastewater Disposal and Treatment  
CE 282: Environmental Pollution and Control

#### Electrical Engineering Courses

EE 210: Rural Electrification and Distributed Generation  
EE 220: Energy Resources and Technologies  
EE 230: Development and Evaluation of Energy Projects  
EE 240: Energy Audit and Conservation  
EE 250: Fault Studies  
EE 270: Power Systems Economics  
EE 260: Computer-aided Power System Analysis

#### Mechanical Engineering Courses

ME 200: Advanced Thermodynamics  
ME 202: Advanced Heat Transfer  
ME 204: Advanced Refrigeration Engineering  
ME 205: Experimental stress analysis  
ME 208: Machine Vision  
ME 211: Thermal Engineering  
ME 209: Advanced Computer-aided Solid Modeling and Design

## Research Courses

CE 299A/ME 299A/EE 299A: Graduate Seminar  
CE 299B/ME 299B/EE 299B: Special Project

## ADMISSION REQUIREMENTS:

In addition to the requirements of the University for admission into the CMU Graduate School which include the Graduate School Admission Test (GSAT), the applicant must be a holder of a bachelor's degree in engineering or its equivalent from any CHED-recognized institution.

## Degree Requirements

1. The MOE program require a total number of 46 credit units of course work which include 24 units of core courses, 18 units of major courses, 3 units of special project and 1 unit of graduate seminar.

2. Every candidate must complete the following core courses ES 200, ES 204, ES 207, ES 213 and ES 219 plus three major courses and maintain a Cumulative Weighted Average Grade (CWAG) of "2.0" or better in all his/her graduate courses.

3. Students admitted to the programs who have not taken the undergraduate Advance Engineering Mathematics for CE, EE and ME (CE 42, EE 42 and ME 42) subjects must enroll and pass in these subjects in the respective BSCE, BSEE and BSME program at Central Mindanao University. These subjects are prerequisites to the required core courses. Additional undergraduate subject maybe required by the program adviser as prerequisites in the major courses.

**Note:** Units earned in the background courses will not be credited towards the Master of Engineering Program

4. The students will be required to demonstrate his or her grasp of the program fundamentals by taking a comprehensive examination after he or she has successfully completed all the required course works prior to his/her enrollment of Special Project during his/her last semester. In case of failure, the comprehensive examination must be repeated within one year. Failure to pass the second attempt will mean disqualification from the program.

## FACULTY PROFILE

CIVIL ENGINEERING DEPARTMENT	
Einstine M. Opiso*	PhD, Hokkaido University
Gladys G. Silabay	M.Eng, XU-CDO
Leoncio Mariano C. Acma	MSCE, MSU-IIT,
Paulino R. Reomero	MSCE, UP Diliman
Reinerio P. Supremo	MSCE, MSU-IIT, Doctor of Eng'g (Cand.), MSU-IIT
Reynaldo G. Juan	M.Eng, AIT-Bangkok, Thailand
Richard B. Pektipekit	M.Eng, MSU-IIT
Richard J. Aquino	MSCE, UP-Diliman,
ELECTRICAL ENGINEERING DEPARTMENT	
Alnar L. Detalla****	D.Sci, Ibaraki University, 2005
Ariel S. Abay	MOE (Cand.) at MSU-IIT
Earl M. Opiso**	M.Eng, AIT-Bangkok
Roger C. Flores	MM, LDCU
MECHANICAL ENGINEERING DEPARTMENT	
Arman Gascon	MSME, UP-Diliman
Constancio M. Verula, Jr.	PhD, UPLB
Diomedes Gabule, Jr.	MSME, MSU-IIT
Rey F. Polom	MSME, MSU-IIT
Ronaldo C. Balandra***	MSME, MSU-IIT

Note:

- \* Program Coordinator for CE
- \*\* Program Coordinator for EE
- \*\*\* Program Coordinator for ME
- \*\*\*\* Affiliate Faculty Member

*For more details, please contact / write*

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## MASTER OF ENGINEERING PROGRAM (2013)

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