

## Mission Statement

We are a Catholic institution of learning dedicated to advancing the frontiers of knowledge in the theoretical and applied fields through quality graduate education that is comprehensive and responsive to the needs of society.

We are committed to the formation of scholars and high-quality professionals who are ethical, competent, compassionate, and committed to the service of their respective professions, the church, the nation, and the global community.

## Vision Statement

We envision a Graduate School that stands for excellence and innovation and that is globally recognized for its distinct degree programs and quality research outputs.

## Goals and Objectives

The Graduate School commits itself to develop:

1. Competent professionals who, inspired by the ideals of St. Antoninus of Florence, promote excellence in the production, advancement, and transmission of specialized knowledge and skills in the sciences, the arts, and community service;
2. Scholarly researchers and creative thinkers who, kindled by St. Thomas Aquinas' ardour for truth, aspire to become fonts of intellectual creativity and, in their quest for quality research, are proficient and critical in assessing and communicating information in various fields that impact the professions, the church, the nation, and the global community;
3. Professional Christian leaders who, touched by St. Dominic de Guzman's apostolic fire and warmed by Mary's motherly care, articulate ethics and truth, high level of moral maturity in resolving issues and promoting social justice and compassion for the poor, and care for the environment;
4. Globally engaged citizens who, with ardent advocacy for life, promote a deeper understanding of tolerance and justice as well as linguistic, religious, and cultural diversities as a result of precise evaluation of modern problems and inquiries;
5. Committed scholars who, nurtured by the dogmas of Christian faith and values, are dedicated to the pursuit of truth through the promotion of an intellectual culture that values academic rigor and freedom of scientific investigations; and

6. Lifelong learners who, empowered by St. Antoninus of Florence's zeal for learning, are committed to the advancement of a higher culture through a continuous search for intellectual inquiries and new knowledge as well as faithfulness to Catholic intellectual traditions.

### APPLICATION PROCEDURES

- A. Application for admission to the UST Graduate School is until October 15 for October enrollees, April 5 for Summer enrollees and May 25 for June enrollees.
- B. Application forms for Admission are available at the UST Graduate School, UST Admissions Office & at the UST Graduate School Web Site – <http://www.ust.edu.ph>

### REQUIREMENTS:

Certified true copy of Transcript of Records, one (1) colored passport size, recent photo (if any) document(s) attesting to passing a Bar/Board Exam, or being a scholar of any agency.

Two (2) Referral Forms: One(1) for the current (immediate) superior (or Dean, in the case of a school); and the other, for the professor in one specialization (major) subject.

### For Foreigners:

**All of the above and;**  
TOEFL English Proficiency and Student Visa Requirements.

### ADMISSION REQUIREMENTS

1. Bachelor's Degree in Engineering or related courses with a general average of at least 2.0/85% or B.
2. Complete accomplished application and referral forms.

### PHILOSOPHY & OBJECTIVES

Enhance the capabilities of engineering faculty members and cadet engineers by updating them on the advances and recent developments in Engineering and Technology and by strengthening their comprehension of engineering principles.

Pursue a practice-oriented program that will provide an opportunity for the students to industry exposure, real-life applications of the Engineering principles and technologies, and keep up with the recent advancements in technology.

Also, students are trained to be future managers and leaders in the field of engineering management. The course also aims at life long learning, global competitiveness and development of skills in Management Engineering.

### CURRICULUM

## MASTER OF SCIENCE IN MANAGEMENT ENGINEERING

### PRE-REQUISITE SUBJECTS: 6 UNITS

#### **GS 500 - St. Thomas and Critical Thinking**

As the philosophical foundation of Research Methodology, it is a study of the principles of and skills in critical thinking according to St. Thomas Aquinas in the three areas of mental cognition: simple apprehension, judgment, and reasoning; and of common fallacies towards the acquisition of the art of argumentation.

#### **GS 501 - Research Methodology**

The student is introduced to research concepts relevant to management engineering. Discussions center on how to prepare a thesis emphasizing choice of title, statement of the problem, sources of data, analysis and evaluation of information gathered among others. Course output is a thesis proposal. Reviews the UST-GS Thesis Writing Guide Booklet.

### CORE SUBJECTS: 9 UNITS

#### **MENG 601 - Applied Statistics**

A study on the techniques in organizing, analyzing and interpreting collected information and on the concepts of probability, random variables, discrete and continuous probability distributions, frequency distributions and descriptive measurements, sampling and sampling distributions, hypothesis testing, linear and multiple regression, and correlation.

#### **MENG 602 - Industrial Organizations and Management**

A study on the principles and practices of administration in an industrial setting including nature of management, organization, planning, controlling action and measuring results, management of human resources, communication, decision making, etc.

#### **MENG 603 - Quantitative Approach to Management**

A study on the concepts and applications of deterministic models such as: linear programming, transportation and assignment models, network, waiting line, inventory, simulation and markov analysis.

#### **MENG 604 - Project Research & Development**

A study on research concepts and methods relevant to business and industry. It focuses on the preparation of a project proposal and a project feasibility study emphasizing identification of problem, formulation of statement of the problem and hypothesis, research methodology, sources and collection of data, analysis and presentation of data, and, levels and details of preparing a feasibility study.

### MAJOR SUBJECTS : 15 UNITS

#### **MENG 701 - Production and Operations Management**

A study on design, operation, planning, and controlling of productive systems in producing goods and services. It focuses on the theories, concepts, and techniques of forecasting, location planning, process selection and capacity planning, facilities layout, design of work systems, aggregate planning, inventory management, materials requirement planning, just-in-time, scheduling, waiting line, quality assurance, etc.

#### **MENG 702 - Human Resource Management**

A basic course relating internal and external labor market concepts to organizational manpower planning in various institutional settings. Topics covered include manpower forecasting, career planning, executive development and the impact of government, unions and technological change on people and their utilization in the organization.

#### **MENG 703 - Project Management**

It is concerned with planning and controlling the use of resources as manpower, materials, facilities, technology and information to accomplish the production objectives of an organization. Its major concern is to develop the students' understanding of the design, operation, control, evaluation and implementation of a project.

#### **MENG 704 - Materials Management**

A study on the concepts and principles in purchasing, storage, and movement of materials during production and with distribution of finished goods. It focuses on the organization of materials management, purchasing and logistics functions, and their interfacing with other organizational functions.

#### **MENG 705 - Value Analysis and Management**

A study on the fundamentals, theories, systematic applications and administration of value engineering and analysis. It focuses on function analysis and organized job plan, establishing a system, and application of value analysis.

#### **MENG 706 - Total Quality Management**

A study on the integration of all functions and processes within an organization to achieve continuous improvement of the quality of goods and services with the goal of achieving customer satisfaction. It focuses on the integration of all organizational and management subsystems for seeking and exploiting opportunities for improvement at all levels.

### **MENG 707 – Systems Engineering and Analysis**

A study on the theoretical and applied aspects of systems analysis, systems procedures and methodologies. It focuses on system definition, conceptual design, test and evaluation, optimization in design & operation, and design for reliability, maintainability, supportability and manageability.

### **MENG 708 - Management Information System with Computer**

This course presents a number of computer applications in various management disciplines from a planning and policy viewpoint. Specific applications include decision support systems, financial and marketing models, graphics and spread sheet software, etc. Hands-on experience with computers and mainframe processing are emphasized.

### **MENG 709 – Strategic Management**

An integrating course for all the major functions of management by studying the strategy and external posture of an organization design and process. It considers the organization in its totality from the viewpoint of a Chief Executive Officer (CEO) and centers on formulating strategies, implementing these strategies and managing adversity. Organizing for strategic action is its overall concern.

### **MENG 710 – Environmental Management**

A study on environmental management, energy management, technology management, sustainable development, environmental/energy regulations, environmental impact assessment, scientific background on environmental pollution and energy, and control strategies.

### **COGNATE SUBJECTS: 3 UNITS**

*Any subject in other major fields that has substantial bearing on thesis.*

### **OTHER REQUIREMENTS**

Written Comprehensive Examinations (*WCE*)

TW I - 3 units (*Thesis Proposal*)

TW II - 3 units (*Research Colloquium*)

TW III - 3 units (*Thesis Defense*)

**Total = 42 Units**

### **UST GRADUATE SCHOOL ADMINISTRATION**

#### **OFFICIALS AND FACULTY SET-UP**

MARILU R. MADRUNIO, Ph.D.

*Dean*

JOSÉ ANTONIO E. AUREADA, O.P., S.Th.D.

*Regent*

ALEJANDRO S. BERNARDO, Ph.D.

*Faculty Secretary*

GRECEBIO JONATHAN D. ALEJANDRO, Dr.rer.nat.

*Director for Graduate Research*

JOCELYN AGCAOILI, Ph.D.

*Director, Center for Continuing  
Professional Education & Development*

ERIC B. ZERRUDO, MA

*Director, Center for Conservation of Cultural Property  
and Environment in the Tropics*

SUSAN F. BALDIA, Ph.D

*Supervising Scientist, Science Laboratories*

MARIA NATALIA R. DIMAANO, Ph. D. (Chem. E.)

*Consultant for Engineering*

#### **PROFESSORIAL STAFF**

Nelson Bool, Ph.D.

Nancy Eleria, Ph.D.

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Alberto Laurito, M.S.

Evelyn Laurito, Ph.D.

Marilyn Mabini, Ph.D.

Philipina Marcelo, Ph.D.

Lydia Tansinsin, Ph.D.

UNIVERSITY OF SANTO TOMAS  
THE CATHOLIC UNIVERSITY OF THE PHILIPPINES  
MANILA, PHILIPPINES  
**THE GRADUATE SCHOOL**



**MANAGEMENT  
ENGINEERING**  
MASTER OF SCIENCE IN MANAGEMENT ENGINEERING