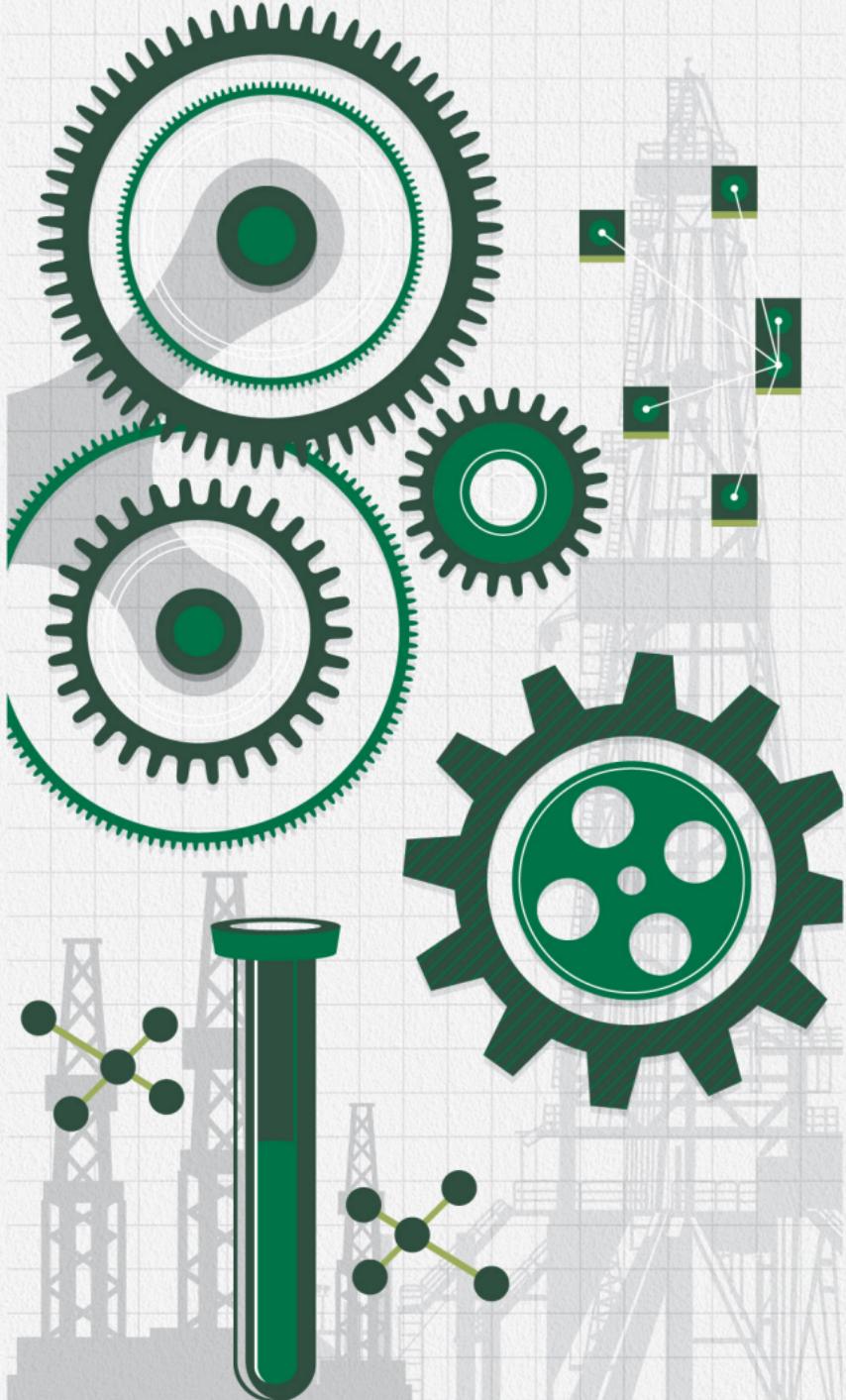




DE LA SALLE UNIVERSITY  
**GRADUATE AND UNDERGRADUATE  
PROGRAMS IN**  
**ENGINEERING**





# GOKONGWEI COLLEGE OF ENGINEERING

GRADUATE AND  
UNDERGRADUATE PROGRAMS

# CHEMICAL ENGINEERING DEPARTMENT

Established in 1947, the Chemical Engineering Department of De La Salle University is focused on one of the earliest yet most dynamic and evolving disciplines in the technology sector. Chemical engineering is a growing field recognized for some of the greatest innovations in industrial history.

Chemical engineers contribute to milestones in technological progress, such as

- Polymers (plastics & rubber)
- Petroleum
- Food Processing
- Pharmaceutics
- Environmental Remediation
- Materials Science
- Molecular Biotechnology
- Renewable Energy

While chemical engineering traces its roots from chemistry and mechanical engineering, it is distinct from both fields. In the broadest sense, chemical engineering deals with the manipulation of matter and energy to convert raw materials into useful products.

Chemical engineers use the principles of chemistry, physics, mathematics, biology, economics, and computer science to achieve engineering objectives such as maximizing profit, ensuring public safety, and environmental protection.

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The Chemical Engineering Department maintains the following instructional and research facilities:

#### Instructional Laboratories

- Chemistry Laboratory
- Process Control Laboratory
- Unit Operations Laboratory
- Chemical Process Industries Laboratory

#### Research Laboratory

- Biochemical Process laboratory
- Chemical Engineering Research Laboratory
- Environmental Engineering Laboratory
- Tissue Engineering Laboratory
- Instrumentation Room
- Process Simulation and Computing Laboratory



# **BACHELOR OF SCIENCE**

## **IN CHEMICAL ENGINEERING**

The regular Bachelor of Science in Chemical Engineering Program is a four-year course designed to produce competent and socially responsible chemical engineers who are also lifelong learners.

## **BACHELOR AND MASTER OF SCIENCE IN CHEMICAL ENGINEERING**

Academically exceptional students may also apply for admission to the Chemical Engineering Honors Program, the Bachelor of Science and Master of Science Program. This program enables qualified students to obtain dual degrees (undergraduate and graduate) in a shortened time frame.

## **DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING**

The Doctor of Philosophy in Chemical Engineering Program aims to train engineers in the academe, industry, and government institutions for serious study and intensive research in specialized fields of chemical engineering, process modeling, simulations and control; environmental engineering; energy engineering; biochemical engineering; process development, design and integration; and biotechnology and bioprocess engineering.

## **MASTER OF SCIENCE IN CHEMICAL ENGINEERING**

The Master of Science in Chemical Engineering Program equips engineering professionals who are into research and development or material science and engineering, with advanced training in specialized fields of chemical engineering. Students receive intensive training in research and independent study.

# **MASTER OF SCIENCE IN ENVIRONMENTAL ENGINEERING AND MANAGEMENT**

## **IN CHEMICAL ENGINEERING**

The Master of Science in Environmental Engineering and Management Program equips engineers with advanced skills and knowledge in design, tracking, monitoring, and maintenance of industrial and societal systems. Multi-disciplinary in approach, the program seeks to develop experts whose input can be valuable for government and non-government agencies that deal with environmental legislation and administration.

## **MASTER OF ENGINEERING MAJOR IN CHEMICAL ENGINEERING**

The Master in Engineering in Chemical Engineering Program aims to broaden and advance the skills of chemical engineers. The program focuses on practical and industrial applications and prepares professionals for careers in administration and management in production, process engineering, and research and development.

## **MASTER OF ENGINEERING IN ENVIRONMENTAL ENGINEERING AND MANAGEMENT IN CHEMICAL ENGINEERING**

The Master of Engineering in Environmental Engineering and Management Program is a multidisciplinary course which aims to upgrade and advance the skills of environmental engineers. With emphasis on practical and industrial applications, the program allows students to gain expertise and take on positions either as in-house engineers or consultants to various companies.

# FACULTY

The Department of Chemical Engineering faculty is committed to developing student's potential. Majority of the faculty members earned doctorate degrees from universities in the Philippines and abroad. Professors apply outcomes-based learning and authentic assessment tools in evaluating student performance.

## FACULTY AND SPECIALIZATION

### **JOSEPH AURESENIA, PH.D.**

Biomass Conversion into Nanocarbon Functional Materials

### **KATHLEEN B. AVISO, PH.D.**

Process Systems Engineering for Environmental Decision-Making

### **LAWRENCE P. BELO, PH.D.**

Waste Utilization and Environmental Engineering

### **ARNEL B. BELTRAN, PH.D.**

Membrane Separation and Technology,  
Waste Water Engineering

### **GIAN PAOLO O. BERNARDO, PH.D.**

Heterogeneous Catalysis, Carbon Nanotube Production,  
Molecular Dynamics

### **VERGEL C. BUNGAY, D.ENG**

Coal Gasification, Solution Thermodynamics

### **ANGELO EARVIN S. CHOI, PH.D.**

Oxidation of Sulfur in Fuel Oil,  
Adsorptive Removal of Contaminants

### **NATHANIEL P. DUGOS, PH.D.**

Tissue Engineering and Regenerative Medicine,  
Desulfurization of Fuel Oils

### **CYNTHIA F. MADRAZO, PH.D.**

Biomass Utilization, Extraction of Bioactive Compounds

### **AILEEN H. ORBECIDO, PH.D.**

Water and Wastewater Treatment and Management

### **JOSEPH R. ORTENERO, PH.D.**

Chemical and Electrochemical Energy Storage

### **MICHAEL ANGELO B. PROMENTILLA, PH.D.**

Multi-Criteria Decision Analysis in Systems Engineering,  
Geopolymer and Advanced Materials Engineering

### **LUIS F. RAZON, PH.D.**

Reactive Nitrogen, Life Cycle Analysis

### **SUSAN A. ROCES, D.ENG**

Energy Engineering

### **ALLAN N. SORIANO, PH.D.**

Chemical Engineering Thermodynamics,  
Systems Modeling of Chemical and Environmental  
Engineering Processes

### **RAYMOND R. TAN, PH.D.**

Computer-Aided Design of Low-Carbon Systems

### **JOHN FREDERICK D. TAPIA, PH.D.**

Biomass Value Chains and GIS Studies

### **DENNIS N. YU (ACADEMIC SERVICE FACULTY)**

Environmental Toxicology, Material Science

# RECOGNITION AND ACCREDITATION

The Chemical Engineering Department of De La Salle University is recognized as a hub for chemical engineering education in Southeast Asia by the ASEAN University Network / Southeast Asia Engineering Education Development Network (AUN/SEED-NET). The department's undergraduate Chemical Engineering Program is the first in the country to be awarded Level 4 accreditation by the Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU). Prolific faculty members have garnered prestigious recognition like the Department of Science & Technology's Outstanding Young Scientist (OYS) Award, Hugh Greenwood Environmental Science Award, and Philippine Institute of Chemical Engineers' Outstanding Chemical Engineer Award. The department has established linkage programs with top global universities.

Graduates lead diverse careers after graduation. Career possibilities include

- Law
- Finance
- Medicine
- Education
- Consulting
- Environment Management
- Public Service
- Petroleum Industry
- Food and Pharmaceuticals

# CONTACT INFORMATION

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

2nd floor Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue, Manila  
E-mail: [admissions@dlsu.edu.ph](mailto:admissions@dlsu.edu.ph)

[www.dlsu.edu.ph](http://www.dlsu.edu.ph)  
[www.facebook.com/DLSU.GradStudies](http://www.facebook.com/DLSU.GradStudies)

# CIVIL ENGINEERING DEPARTMENT

The graduate programs in DLSU Civil Engineering are designed to prepare professional civil engineers to address contemporary issues of sustainability and disaster risk.

The Department boasts a faculty roster of full-time PhD degree holders, state-of-the-art research equipment and facilities, an extensive library, and state-of-the-art civil engineering softwares. The Department has strong linkages with international universities, particularly in the areas of collaborative research and training.

Each of the specializations has its own dedicated laboratory.

Featuring equipment such as total stations, direct shear apparatus, oedometer apparatus, triaxial soiltesting machine, UTM, load and displacement transducers, and data loggers for structures, as well as hydrology apparatus, fluid channel, and fluid friction apparatus for water.

In the computer laboratories, students can access State-of-the-art software such as ETABS, SAP2000, CSI, Section Builder, and MIDAS for structural engineering, Primavera and Cubicost for construction technology and management, STELLA for systems modeling, and EMME3, DYNAMEQ, JICASTRADA3, HCS+7F, and ARCGIS and 12D for transportation planning and engineering, as well as MAPINFO, GeoStudio, and RocScience for geotechnical engineering



Kindly scan the QR Code to access course offerings.

# GRADUATE PROGRAMS

## DOCTOR OF PHILOSOPHY

### IN CIVIL ENGINEERING

The PhD Program in Civil Engineering offers five fields of specialization, namely: Construction Technology and Management; Geotechnical Engineering; Structural Engineering; Transportation Planning and Engineering; and Hydraulics and Water Resources Engineering. Under these, the program offers two integrative courses: Sustainable Infrastructure for the Natural and Built Environment and Natural Disaster Risk Mitigation and Management. Ph.D. students are each assigned an adviser.

Students with a non-thesis Master of Engineering degree will be required Directed Research, an independent and supervised research work, to be conducted for two terms or six months, equivalent to 6 units of enrolment. This is to assess the capability of the student to conduct research prior to acceptance to the Ph.D. program.

Graduates of Master of Science in Civil Engineering (thesis program) can enroll directly to the Ph.D Program upon submission of requirements. The curriculum of the PhD program is composed of 30 units of coursework and dissertation, summarized as follows:

Specialization Courses	12 units
Philosophy Course	3 units
Seminar	3 units
Dissertation	12 units
<b>Total</b>	<b>30 units</b>

## MASTER OF SCIENCE

### IN CIVIL ENGINEERING

The Master of Science in Civil Engineering Program trains students in advanced technical concepts and mathematical approaches required in the field. It has special tracks that allow engineering professionals to specialize in a field and take on careers in technical management, consulting, and design.

Methods of Research	3 units
Advanced Mathematics	6 units
Major Subjects	15 units
Cognates/electives	6 units
Thesis	6 units
Orientation for non-DLSU graduates	1 unit*
<b>Total</b>	<b>36 units</b>

\*non-academic unit

## MASTER OF ENGINEERING

### MAJOR IN CIVIL ENGINEERING

The Master of Engineering in Civil Engineering aims to upgrade and advance the skills of civil engineers. Practical in approach, the program focuses on pragmatic and industrial applications of theoretical concepts. Graduates are poised to take on careers in technical management, consulting, and design.

Foundation Subjects	12 units
Methods of Research	3 units
Advanced Mathematics	6 units
Major Subjects	15 units
Cognates/Electives	6 units
Practicum	6 units
Orientation for non-DLSU graduates	1 unit*
<b>Total</b>	<b>48 units</b>

\*non-academic unit

## BACHELOR/MASTER OF SCIENCE

### HONORS PROGRAM

The BS/MS Honors program is an accelerated program for undergraduate students with exceptional academic research aptitude. The BS/MS student can earn both BS and MS degrees by just adding two (2) terms in his/her four-year BS Civil Engineering program. The student applicant can apply in the BS/MS program at the start of his/her freshman year or during his/her junior year. The student must maintain a CGPA of 3.2 without any failure throughout the duration of the program. The MS component of the student's coursework is also equivalent to that of the MS Civil Engineering student by crediting some of his/her MS subject as undergraduate subjects and must conduct an MS thesis alone.

# MASTER OF SCIENCE

## PORTS AND HARBORS ENGINEERING AND MANAGEMENT

The Master of Science in Ports and Harbors Engineering Management program seeks to provide an innovative curriculum through collaborations with industry and international universities. The curriculum will train students on advanced topics in mathematics, coastal engineering, port structures and foundations, port transportation networks, operations and management, economics, disaster risk reduction, and infrastructure development.

### COURSE COMPOSITION

Methods of Research	3 units
Advanced Mathematics	6 units
Major Subjects	15 units
Cognates / Electives	6 units
Thesis	6 units
Orientation for a Non-DLSU graduate	(1 unit)
<b>Total</b>	<b>36 units</b>

# FACULTY

### • CONSTRUCTION TECHNOLOGY AND MANAGEMENT

#### RODOLFO P. MENDOZA JR.

D. Eng., Nagoya University

#### JASON MAXIMINO C. ONGPENG

D. Eng., Tokyo Institute of Technology

#### CHERYL LYNE C. ROXAS

M.Eng., Chulalongkorn University

### • GEOTECHNICAL ENGINEERING

#### IRENE OLIVIA UBAY-ANONGPHOUTH

Ph.D., University of Manitoba

#### MARY ANN Q. ADAJAR

Ph.D., University of the Philippines

#### JONATHAN R. DUNGCA

D. Eng., Tokyo Institute of Technology

#### ERICA ELICE S. UY

Ph.D., De La Salle University

### • HYDRAULICS AND WATER RESOURCES ENGINEERING

#### MARIO P. DE LEON

Ph.D., Kagoshima University

#### MARLA M. REDILLAS

Ph.D., Kongju National University

#### RENAN MA. T. TAHUECO

Ph.D., University of the Philippines

### • STRUCTURAL ENGINEERING

#### RICHARD M. DE JESUS

MSCE, University of the Philippines

#### LESSANDRO ESTELITO O. GARCIANO

D. Eng., Tokyo City University

#### BERNARDO A. LEJANO

D. Eng., Nihon University

#### ANDRES WINSTON C. ORETA

D. Eng., Nagoya University

### • TRANSPORTATION PLANNING AND ENGINEERING

#### ALEXIS M. FILLONE

Ph.D., University of the Philippines

#### PAOLO IAN C. LUCERO

MSCE, Chulalongkorn University

#### MARIA CECILIA R. PARINGIT

D. Eng., Tokyo Institute of Technology

#### KRISTER IAN PAOLO Z. ROQUEL

Ph.D., De la Salle University

### • ACADEMIC SERVICE FACULTY

#### JOENEL G. GALUPINO

MSCE, De La Salle University

### • PART-TIME FACULTY

#### RAYMUND PAOLO ABAD

Ph.D., De La Salle University

#### KRISTIAN CARINGAL

MSCE, De La Salle University

#### NOLAN CONCHA

Ph.D., De La Salle University

#### JEROME BENEDICT CROCKETT

MS Civil Engineering Structures, University of London

#### MILLER CUTORA

MSCE, De La Salle University

#### JUANITO EJE

MSCE, De La Salle University

#### KENNETH JAE ELEVADO

MSCE, De La Salle University

#### KERVIN JOSHUA LUCAS

MSCE, De La Salle University

#### ADRIAN MADRAZO

MSCE, National Taiwan University

#### MA. KLAIRISSA MARTINEZ

MS Sustainable Design, Philadelphia University

#### CHARLES JULIUS OLIQUINO

MSCE, MSCE, De La Salle University

#### MA. EMILIA SEVILLA

MSCE, Chulalongkorn University

#### FREDERICK FRANCIS SISON

MSCE, University of the Philippines

#### KENNETH ROI TORAL

MSCE, De La Salle University

#### DANIEL NICHOL VALERIO

MSCE, Chulalongkorn University

#### MARY GRACE VENTANILLA-CALILUNG

M. Eng., Structural Engineering, Pamantasan ng Lungsod ng Maynila

# ADMISSIONS REQUIREMENTS

## ADMISSIONS PROCEDURE

- Application form with 2x2 picture
- Original copy of transcript of records
- Original copy of NSO birth certificate
- Transfer credential (for non-DLSU graduates)
- Two (2) letters of recommendation  
(downloadable forms at [www.dlsu.edu.ph](http://www.dlsu.edu.ph))
- Updated Curriculum Vitae
- Personal statement containing academic and career objectives
- Two (2) pieces of 2" x 2" picture for testing permit
- Certificate of good moral character from previous school/employer at least six months from date of issuance

## ADDITIONAL REQUIREMENTS FOR PH.D. APPLICANTS

- Photocopy of research output
- Concept paper for the proposed dissertation research

## SCHOLARSHIPS AND FINANCIAL ASSISTANCE

DOST-ERDT, CHED, and DOST-SEI

# CONTACT INFORMATION

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

2nd floor, Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue, 1004 Manila

Visit <http://www.dlsu.edu.ph/admissions/>  
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[www.dlsu.edu.ph](http://www.dlsu.edu.ph)  
[www.facebook.com/DLSU.GradStudies](http://www.facebook.com/DLSU.GradStudies)

## CIVIL ENGINEERING DEPARTMENT

Gokongwei College of Engineering  
De La Salle University  
2401 Taft Avenue, 1004 Manila  
Philippines

E-mail: [ChairCE@dlsu.edu.ph](mailto:ChairCE@dlsu.edu.ph)



# CIVIL ENGINEERING UNDERGRADUATE

The Bachelor of Science in Civil Engineering (BSCE) program at De La Salle University seeks to meet the country's need for top-caliber civil engineers who will spearhead nation-building through infrastructure development.

Since its initial offering in 1987, DLSU has produced civil engineers who are presently working in design and construction firms. Cognizant of the demand for civil engineers who can address problems related not only to housing and infrastructure but also flooding, water crisis, pollution, urban traffic, and disaster mitigation, the Department of Civil Engineering has introduced innovations in the curriculum.

The BSCE program can be completed in four years and one term. This covers four years of academic training and one term on-the-job training. The BSCE curriculum at DLSU was designed to produce civil engineers with sufficient background in general education courses, mathematics, physical and natural sciences, basic engineering sciences, and general civil engineering. Moreover, the present curriculum introduces specializations in the undergraduate program.

# FIELD OF SPECIALIZATION

## CONSTRUCTION TECHNOLOGY AND MANAGEMENT (CTM)

The CTM program intends to produce graduates who are better prepared for the demands of the construction industry. The main objective of the CTM program is to prepare students for the effective planning and implementation of construction projects by giving them basic knowledge of construction materials and technology, and project management concepts. The subjects in project management include topics in plans and specifications, cost engineering, and accounting, and organization. The program also envisions that some graduates may immediately join their family construction business or may ultimately put up their own firms. Subjects that deal with estimating, bidding, marketing, business organization, economics, and strategy are tackled to prepare them for this prospect. The specialization courses for the CTM program are:

1. **CTMQAQC** – CTM Quality Assurance and Quality Control
2. **CTMPROM** – CTM Process Management
3. **CTMBUIL** – CTM Introduction to Builders
4. **CTMBUEN** – CTM Built Environment

## GEOTECHNICAL ENGINEERING (GTE)

The GTE program aims to produce civil engineers who are experts in the study of the behavior of soils and rock under the influence of loading forces and soil-water interactions. The students in this program are trained to be knowledgeable in the design of foundation and earth-retaining structures, sub-surface exploration and characterization of soils and other geo-materials, risk assessment associated to geo-hazards such as landslides and earthquakes, and landfill disposal of wastes and groundwater contamination. The specialization courses for the GTE program are:

1. **GTEROCK** – Rock Mechanics
2. **GTEENVI** – Geo-Environmental Engineering
3. **GTEUGRD** – Underground Infrastructure Engineering
4. **GTESLOP** – Slope Stability and Analysis

## HYDRAULICS AND WATER RESOURCES ENGINEERING (HWR)

The HWR program was developed in response to the needs of the country in solving water resources related problems such as water supply crisis, power shortage, insufficient food supply due to poor irrigation, water pollution, and disasters due to lahar and flood flows. The HWR program covers a broadfield encompassing the following major sub-fields: analysis of water occurrences and flows, control of water, utilization of water, water quality analysis, watershed management and planning, and sedimentation in channels. The HWR program aims to produce competent Hydraulic and Water Resources Engineers who can work as engineers/consultants in government agencies, in construction and private consulting firms. The specialization courses for the HWR program are:

1. **HWRRGIS** – Water Resources Engineering with Remote Sensing
2. **HWRCFDE** – Flood Control, Waste Water, and Drainage Engineering
3. **HWRSDPD** – Water Supply & Distribution, Treatment, Planning and Development
4. **HWRCORI** – Coastal and River Engineering

## STRUCTURAL ENGINEERING (STE)

The STE program aims to produce competent structural engineers who can provide technical support in the infrastructure development of the country. In general, the STE program trains the students in the planning, analysis, design, construction, inspection, rehabilitation, and preservation of structures which includes residential and office buildings, bridges, and a large variety of structures using various materials such as steel, concrete, and timber, taking into consideration technical, economic, environmental, and social aspects. The specialization courses for the STE program are:

1. **STEMTRX** – Civil Programs in Structural Analysis
2. **STERQUA** – Earthquake Engineering
3. **STEBLDG** – Structural Design of Buildings
4. **STEBRDG** – Bridge Engineering

## TRANSPORTATION ENGINEERING (TRE)

The TRE program aims to produce Transportation and Highway Engineers who can provide technical support in the government's program of improving and expanding the transportation system and infrastructures of the country such as the LRT, MRT, flyovers, skyways, airports, and harbors. The TRE program also addresses issues related to transport planning, urban traffic engineering and management, and the design and construction of road pavements. The specialization courses for the TRE program are:

1. **TREMMTT** – Mathematical Methods for Traffic and Transportation
2. **TREATPE** – Advanced Transportation Planning and Engineering
3. **LBYCV4E** – Advanced Transportation Planning Laboratory
4. **TREAPHS** – Airport and Ports and Harbors Systems Planning
5. **TRETRNS** – Special Topics in Transportation

# FACULTY

## • CONSTRUCTION TECHNOLOGY AND MANAGEMENT

**RODOLFO P. MENDOZA JR.**  
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D. Eng., Nihon University

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D. Eng., Nagoya University

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Ph.D., University of the Philippines

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MSCE, Chulalongkorn University

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M. Eng., Structural Engineering,  
Pamantasan ng Lungsod ng Maynila

# PROGRAM REQUIREMENTS

To balance theory and practice, classroom lectures are supported with laboratory experiments, site visits, and field trips. Practicum is incorporated in the curriculum to expose the students to actual conditions of the profession. Students are not only trained to become civil engineers but also future researchers. As a result, graduates have consistently maintained an outstanding passing record in licensure examinations.

# CONTACT INFORMATION

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

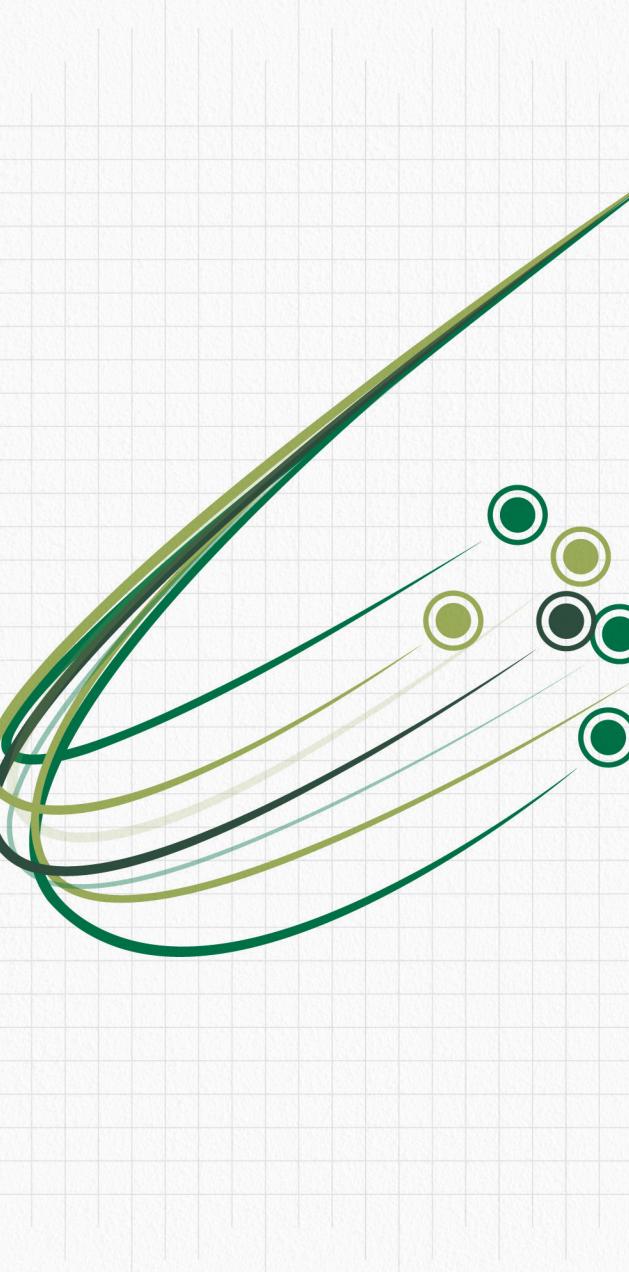
2nd floor, Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue, 1004 Manila

Visit <http://www.dlsu.edu.ph/admissions/>  
E-mail: [admissions@dlsu.edu.ph](mailto:admissions@dlsu.edu.ph)  
[www.dlsu.edu.ph](http://www.dlsu.edu.ph)  
[www.facebook.com/DLSU.GradStudies](http://www.facebook.com/DLSU.GradStudies)

## CIVIL ENGINEERING DEPARTMENT

Gokongwei College of Engineering  
De La Salle University  
2401 Taft Avenue, 1004 Manila  
Philippines

E-mail: [ChairCE@dlsu.edu.ph](mailto:ChairCE@dlsu.edu.ph)



# **ELECTRONICS AND COMPUTER ENGINEERING DEPARTMENT**

## **VISION-MISSION**

The De La Salle University Electronics and Computer Engineering (ECE) Department envisions graduates as competent and ethical professionals in their chosen areas. Its mission is to mold and nurture engineers with a strong sense of nationalism and are highly competent in various fields of electronics, communications, and computing, such as telecommunications, broadcasting, and other communications engineering technologies; industrial electronics and instrumentation; semiconductor applications, manufacture, and test engineering; systems analysis and controls engineering; and software and hardware engineering.

Graduates are expected to live out the Lasallian values, commit to the improvement of the Filipino's quality of life and uphold the standards and dignity of the profession.

# GRADUATE PROGRAMS

## DOCTOR OF PHILOSOPHY

### IN ELECTRONICS AND COMPUTER ENGINEERING

The Doctor of Philosophy in Electronics and Communications Engineering program is designed to prepare the student to undertake independent and supervised research work with a strong emphasis on significant contribution to and mastery of a particular field of specialization.

#### COURSE REQUIREMENTS

Specialization Courses	12 units
Philosophy Course	3 units
Seminar	3 units
Technopreneurship (for ERDT)	3 units
Dissertation	12 units
<b>Total</b>	<b>30 units</b>

## MASTER OF ENGINEERING

### MAJOR IN ELECTRONICS AND COMPUTER ENGINEERING

Application of knowledge acquired from the courses undertaken produces degree-holders who can critically observe and solve industrial problems normally overlooked by weary industrial troubleshooters.

M. Eng. degree candidates are placed in an industrial environment of their choice during their practicum to observe and solve problems that may hinder progress and may have been over-looked or may be expensive to investigate. Using the theories learned from courses taken, an M. Eng. degree candidate is required to pinpoint a problem that he/she will solve. The solution to the problem observed is presented and evaluated at the end of the practicum.

#### COURSE REQUIREMENTS

Foundation Subjects	12 units
Methods of Research	3 units
Advance Mathematics	6 units
Major Subjects	15 units
Cognates/Electives	6 units
Practicum	6 units
Orientation	(1 non-academic unit)
<b>Total</b>	<b>48 units</b>

## MASTER OF SCIENCE

### IN ELECTRONICS AND COMPUTER ENGINEERING

Expertise in an area in Electronics and Communications Engineering requires an innovative investigation of the topic. Generally, this is accomplished by formulating an appropriate hypothesis and probing its usefulness and implementation. The M.S. ECE program produces an expert or a specialist whose thesis or comprehensive research generates an innovative and useful improvement of a new or well-known electronic or communication system.

Courses, which are independently chosen, are offered to provide either the required foundation or the necessary impetus to do research. Major research areas are: Robotics and Computational Intelligence, Communications, Signal Processing, and Integrated Circuit Design.

#### COURSE REQUIREMENTS

Methods of Research	3 units
Advanced Mathematics	6 units
Major Subjects	15 units
Cognates/Electives	6 units
Thesis	6 units
Technopreneurship (for ERDT)	3 units
Orientation	(1 non-academic unit)
<b>Total</b>	<b>36 units</b>

## BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

The program provides students with a background that prepares them for careers in embedded systems design, computer system operations, and systems support. Computer Engineering in DLSU seeks to match efficient digital devices with appropriate software to meet the scientific, technological, and administrative needs of business and industry in a global economy. A computer engineer may design a microprocessor or develop an embedded system for desktops and hand-held devices. Computer Engineering is a combination of the elements of Electrical Engineering and Computer Science, which deals with the design and utilization of computers.

# BACHELOR OF SCIENCE/ MASTER OF SCIENCE HONORS PROGRAM

The BS-MS ECE or BS/MS Honors program is a five-year accelerated course designed for students with exceptional academic and research aptitude. The student is awarded both the BS and MS degrees upon completion of all academic requirements. The first three years of study are identical to those of the regular BS Program. At the end of the junior year, qualified students may opt to enter the program.

## UNDERGRADUATE PROGRAMS

# BACHELOR OF SCIENCE IN ELECTRONICS AND COMPUTER ENGINEERING

De La Salle University's Electronics and Communications Engineering undergraduate program is considered the best in the country, as attested by the Commission on Higher Education's (CHED) granting of Center of Excellence status to the Department.

The largest department in the Gokongwei College of Engineering, the ECE Department has different laboratories for each area of specialization.

Faculty and students use a number of specialized modern research equipment acquired through the Department of Science and Technology.

The ECE Department Research Center provides consultancy and research services to industry. It also offers seminars and short course training for its external partners, particularly for industry-oriented researchers and engineers.

# FACULTY

**ALEXANDER ABAD, PH.D. CANDIDATE**  
Microelectronics, Mixed Signal Electronics, IC Design, Machine Vision, Robotics

**DONABEL ABUAN, PH.D. CANDIDATE**  
Electronic Systems Design, Image Processing

**AARON AFRICA, PH.D.**  
Control Systems, Optimization, Information System

**LEONARD AMBATA, PH.D. CANDIDATE**  
Computer Vision, Electronics, Computational Intelligence

**GERALD ARADA, PH.D. CANDIDATE**  
Array Signal Processing, Antennas and Propagation

**ARGEL BANDALA, PH.D.,**  
Computational Intelligence, Robotics, Swarm Intelligence

**MELVIN CABATUAN, PH.D.**  
Computer Vision, Biomedical Image Processing, Computational Intelligence

**ROBERTO CAGUINGIN, MS**  
Communications Systems

**JOSE ANTONIO CATALAN,  
PH.D. CANDIDATE**  
Data Networks, Renewable Energy, Embedded System, Intelligent System, Computer Vision

**ELMER DADIOS, PH.D.**  
Robotics, Mechatronics, Computational Intelligence Systems, Smart Grid Systems, Intelligent Control Systems, Bio-informatics, and ICT

**JAY ROBERT DEL ROSARIO,  
PH.D. CANDIDATE**  
Mechatronics, Industrial Automation, PLC, Computational Intelligence

**ANN DULAY, PH.D. CANDIDATE**  
Powerline Communication, IC Design, Power Systems, Embedded System

**REGGIE GUSTILO, PH.D.**  
Machine Vision, Signal Processing, Behavioral Pattern Analysis, Wireless Communication, Intelligent System

**CESAR LLORENTE, PH.D. CANDIDATE**  
Computational Intelligence, Embedded Systems, Computer Vision, Computer Architecture

**ELMER MAGSINO, PH.D. CANDIDATE**  
Power Electronics, Non-linear Control Systems, Rotor-based UAV Systems

**ENRIQUE MANZANO,  
PH.D. CANDIDATE**  
Solid State Physics, Conducting Polymers, Instrumentation

**GERINO MAPPATAO, PH.D.**  
Broadcast Engineering, Antenna Design, Communication System, Design & Analysis

**LAWRENCE MATERUM, PH.D.**  
Radio Channel Measurements and Characterization, Telecommunications Engineering

**ROY FRANCIS NAVEA, PH.D. CANDIDATE**  
Image Processing, Computational Intelligence

**CARLO OCHOTORENA, PH.D. CANDIDATE**  
Image Processing, Computational Photography, Sparse Representation

**MARIA ANTONETTE ROQUE,  
PH.D. CANDIDATE**  
Electronics System Design, ICT

**OSWALD SAPANG, MS**  
Computing, Machine Design

**EDWIN SYBINGCO, PH.D. CANDIDATE**  
Signal Processing, Machine Vision, Robotics, ICT and Control Engineering, Mobile Application, Big Data

**MARK LORENZE TORREGOZA,  
PH.D. CANDIDATE**  
Computational Intelligence, Wireless Communications, Computer Networks

**RODERICK YAP, PH.D. CANDIDATE**  
Microelectronics, Microcontroller and Microprocessor application-based Systems, IC Design - Digital & Analog

## ADJUNCT FACULTY AND SPECIALIZATIONS

**JOSEPH AURESENIA, PH.D.**  
Control Systems

**EDWIN CALILUNG, PH.D.**  
Robotics and Mechatronics

**ALVIN CHUA, PH.D.**  
Mechatronics

**ALVIN CULABA, PH.D.**  
Expert Systems, Energy and Environment

**LAURENCE GAN LIM, PH.D.**  
Bioinformatics, Robotics and Mechatronics

**RAYMOND TAN, PH.D.**  
Expert Systems, Energy and Environment

# ADMISSIONS REQUIREMENTS

For online application requirements, go to this link:  
[www.dlsu.edu.ph/admissions/graduate/checklist-local.asp](http://www.dlsu.edu.ph/admissions/graduate/checklist-local.asp)

For Ph.D. applicants, results of the preliminary evaluation may be tracked with the Office of Admissions and Scholarships one week before the scheduled examination.

Financial Assistance and Scholarships  
Deserving students may avail of financial aid or scholarship grants from the following:

- Engineering Research and Development for Technology (ERDT)
- Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERTD)
- Commission of Higher Education (CHED)
- DLSU Office of Admissions and Scholarships
- Graduate Research Fellowship, DLSU

# CONTACT INFORMATION

## ELECTRONICS AND COMMUNICATIONS ENGINEERING DEPARTMENT

Gokongwei College of Engineering (GCOE)  
8th floor Br. Andrew Gonzalez FSC Hall  
De La Salle University 2401 Taft Avenue, Manila

Telephone: (632) 8524-4611 local 224

## GCOE RESEARCH AND ADVANCED STUDIES

Velasco Hall Mezzanine  
De La Salle University 2401 Taft Avenue, Manila

Telephone: (632) 8524-4611 local 217

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

2nd floor Student Services Hub  
Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue, Manila

Telephone: (632) 8524-4611 local 166

E-mail: [admissions@dlsu.edu.ph](mailto:admissions@dlsu.edu.ph)

# **INDUSTRIAL AND SYSTEMS ENGINEERING**

## **DEPARTMENT**

The Industrial and Systems Engineering (IE) Department of De La Salle University offers relevant and specialized undergraduate and graduate programs, the only recipient of a CHED Center of Excellence status in IE.

The thrust of the IE Department is the application of various tools, techniques, and perspectives in the solution and alleviation of practical and theoretical problems.

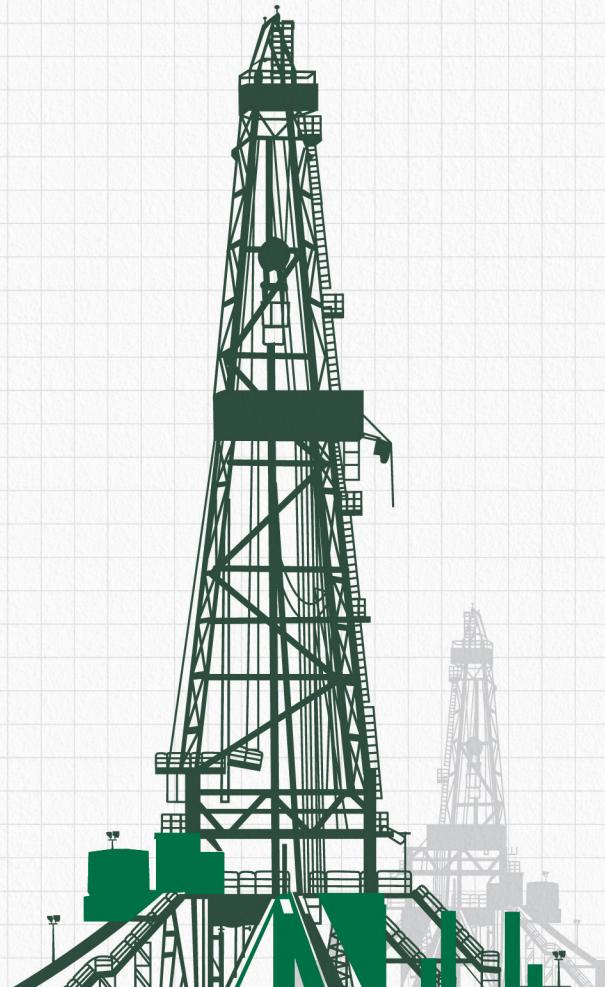
IE deals with problems on strategic, tactical, and operational planning and scheduling systems, quality management, allocation of resources, reliability and maintenance systems, distribution systems, production, and service management.

Undergraduate students are provided access to the most advanced knowledge and technology in the country's IE industry.

Graduate students are trained to become critical analysts using the appropriate tools and techniques in organizational systems modeling and analysis and problem-solving.

Graduate students are challenged to respond to rapid developments in technologies and techniques, as well as broader IE applications, including sustainable production.

DLSU IE faculty members are highly trained, creative, analytical, and exposed to the vast theory and practice of IE. They use state-of-the-art technology and employ physical, engineering, and computer sciences to provide a multi-disciplinary education.



# GRADUATE PROGRAMS

## DOCTOR OF PHILOSOPHY

### IN INDUSTRIAL AND SYSTEMS ENGINEERING

The program provides an opportunity to explore the foundations, the deeper concepts, and wide applications of Industrial Engineering. It offers students a critical exposure to both theoretical and practical aspects of the discipline. The program aims to instill a comprehensive understanding of current concepts, and principles through empirical and theoretical research. Graduates are expected to become excellent researchers, practitioners, and senior consultants in this specialized field.

#### COURSE REQUIREMENTS

Specialization Courses	12 units
Philosophy Course	3 units
Seminar	3 units
Dissertation	12 units
<b>Total</b>	<b>30 units</b>

#### SPECIALIZATION COURSES

These courses will be taken from the broad areas of production and operations management using various perspectives, including mathematical and system dynamics modeling as well as soft systems approaches.

## COURSE OFFERINGS

#### MEP MAJOR COURSES

- IEN5210 - Optimization Techniques I
- IEN5211 - Optimization Techniques II
- IEN5212 - Production and Operations Management Techniques I
- IEN5213 - Production and Operations Management Techniques II
- IEN5214 - Systems Engineering Analysis and Design

#### MSIE MAJOR COURSES

- IEN5310 - Service System Management
- IEN5311 - Inbound Logistics
- IEN5312 - Outbound Logistics
- IEN5313 - Information Systems Design and Management
- IEN5314 - Six Sigma Quality Systems

#### SPECIALIZED COURSES FOR COGNATES

- IEN5711 - Risk Management
- IEN5712 - Design for Six-Sigma Systems
- IEN5713 - Total Quality Environmental Management Systems
- IEN5714 - Maintenance Management
- IEN5715 - Strategic Thinking and Planning

## MASTER OF SCIENCE

### IN INDUSTRIAL AND SYSTEMS ENGINEERING

This program offers a critical perspective to current Industrial Engineering practices and programs such as logistics, Six Sigma, lean manufacturing, service operations, risk management, and environmental systems. The program aims to develop well-rounded industrial engineers who can integrate empirical observations and theories with actual practice towards a more effective and sustainable system. We see our graduates developing skills that will qualify them for higher management and consulting positions, or become highly skilled researchers, not only in academe but also in related information-gathering organizational functions.

#### COURSE REQUIREMENTS

Basic Courses	9 units
Major Courses	15 units
Cognates/ Electives	6 units
Thesis	6 units
Orientation	(1 unit)
<b>Total</b>	<b>36 units</b>

#### SPECIALIZATION COURSES

The major courses deal with contemporary issues and problems in IE using the various tools that are available from simple heuristics to computer simulations and high-level computations. Only Industrial Engineering and BS/MS undergraduates will be accepted in the MS program. Non-DLSU graduates are required to pass a one-unit credit Engineering Orientation course. Students may choose any subject from the list of specialized IE courses or from other engineering graduate programs for their Cognates/Electives.

## BACHELOR/MASTER OF SCIENCE

### IN INDUSTRIAL AND SYSTEMS ENGINEERING

The Bachelor of Science Honors/Master of Science Program is offered to qualified students taking up BS in Industrial Engineering, BS Industrial Management Engineering minor in Information Technology, and BS Industrial Management Engineering minor in Service Management. An applicant must maintain a cumulative grade point average of at least 3.0 at the end of his or her third year in the BS program, with no failing grade. Students are expected to obtain both BS and MS degrees within five years and one term.

# MASTER OF ENGINEERING

## MAJOR IN INDUSTRIAL AND SYSTEMS ENGINEERING

This program is specifically designed for those who do not possess an undergraduate degree in Industrial Engineering. They may be engineers who are involved in general system design, logistics, planning, and other functions related to industrial engineering and who would like to strengthen their competencies by learning principles, concepts, tools, and techniques in planning, work study, ergonomics or human factors engineering, and mathematical optimization, among other specialized IE fields. We see our graduates becoming more skilled and effective in their work and broadening their opportunities for higher management positions.

### COURSE REQUIREMENTS

Foundation Courses	12 units
Basic Courses	9 units
Major Courses	15 units
Cognates/Electives	6 units
Practicum	6 units
Orientation	(1 unit)
<b>Total</b>	<b>48 units</b>

### FOUNDATION COURSES

The foundation courses that a student should take may be reduced or waived; however, the student has to complete 48 units by taking elective subjects as substitute to the foundation courses.

### MAJOR COURSES

These courses deal not only with the development of skills on the use of IE tools and techniques but also their theoretical underpinnings and appropriateness in specific situations, which include production and operations management, operations research, and systems analysis and design. Also integrated into the courses are the basic concepts of ergonomics, safety, advances in manufacturing systems approaches, and product design.

### COGNATE/ELECTIVES

Students can take advantage of specialized learning from courses chosen from other engineering programs. For all graduate programs, non-DLSU graduate applicants are required to pass a one-unit non-credit Engineering Orientation course.

# FACULTY

### LINDLEY R. BACUDIO, MSIE

Production Systems,  
Operations Research

### DENNIS T. BENG HUI, PH.D. CANDIDATE, MSIE

Design and Analysis  
of Six-Sigma Quality Process,  
Production Modeling and  
Simulation, Systems Thinking

### ANTHONY SF. CHIU, DBA, MENGIEM BSME

Industrial Ecology,  
Sustainable Production,  
Resource Management

### EPPIE E. CLARK, PH.D.

Sustainability Development,  
Management of Technology,  
Operations Management,  
Production Teams

### DENNIS E. CRUZ, PH.D. CANDIDATE, MSIE

Mathematical Modeling and  
Optimization, Facilities Planning,  
Supply Chain Management

### GISELLE JOY C. ESMERIA, MEM BSIE

Production Management,  
Operations Research

### BRYAN O. GOBACO, PH.D. CANDIDATE, MSIE

Mathematical Modeling, Systems  
Simulation, Location Science

### ALMA MA. JENNIFER A. GUTIERREZ, PH.D., MSIE

Human Computer Interaction,  
Usability Engineering, Physical  
Ergonomics, Workstation  
Design, Occupational Safety  
and Health, Product Design,  
Methods Engineering

### RICHARD C. LI, PH.D. CANDIDATE, MSIE

Mathematical Modelling,  
Service Systems and Operations  
Management, Performance and  
Quality Measurement in Services

### JOSE EDGAR S. MUTUC, PH.D., MENGINEERING

System Dynamics, TQM, TQEM,  
Ergonomics, Industrial Ecology

### RONALDO V. POLANCOS, PH.D. CANDIDATE, MSIE

Website Usability, Project  
Management, Process  
Management, Information  
System Analysis and Design

### ROSEMARY R. SEVA, PH.D.

Affective Product Design,  
Statistical Modeling, Ergonomics  
Audit, Biomechanics, Cognitive  
Ergonomics, Usability Studies,  
Eye Tracking

### ANNA BELLA D. SIRIBAN- MANALANG, PH.D.-IE

Production Management,  
TQM, Strategic Management,  
Lean Systems, Business  
Processes, BSC, Environmental  
Resource Management

### ERIC A. SIY, PH.D. CANDIDATE, MSIE

Production Scheduling  
and Management,  
Statistical Analysis

### CHARLLE L. SY, PH.D., MSIE

Decision-making  
Under Uncertainty,  
Robust Optimization,  
TargetAchievement

### JAZMIN C. TANGSOC, PH.D. CANDIDATE, MSHFE

Cognitive Ergonomics, Usability,  
Human Computer Interaction,  
Production Management,  
Product Design, Health Care  
Management

### WILLY F. ZALATAR, PH.D., MSIE

Advanced Manufacturing  
Systems, Lean Manufacturing,  
Service Management, Statistical  
Quality Control, Total Quality  
Management

# ADMISSIONS AND SCHOLARSHIPS

## ADMISSIONS PROCEDURE

Submit the following documents to the DLSU Office of Admissions and Scholarships for preliminary evaluation:

- Application Form with 2"x 2" picture with white background
- Official Transcript of Records (two copies, original, and photocopy)
- Two 2"x 2" ID pictures
- Curriculum vitae

For PhD applicants, results of the preliminary evaluation may be verified with the Office of Admissions and Scholarships one week before the scheduled entrance examination.

Financial Assistance and Scholarships  
Deserving students may avail of financial aid or scholarship grants from the following:

- DLSU Office of Admissions and Scholarships
- Department of Science and Technology
  - Engineering Research and Development for Technology (DOST-ERDT)
- CHED Faculty Development Program II Scholarship through the Office of Admissions and Scholarships
- Office of the Vice Chancellor for Academics, DLSU

# CONTACT INFORMATION

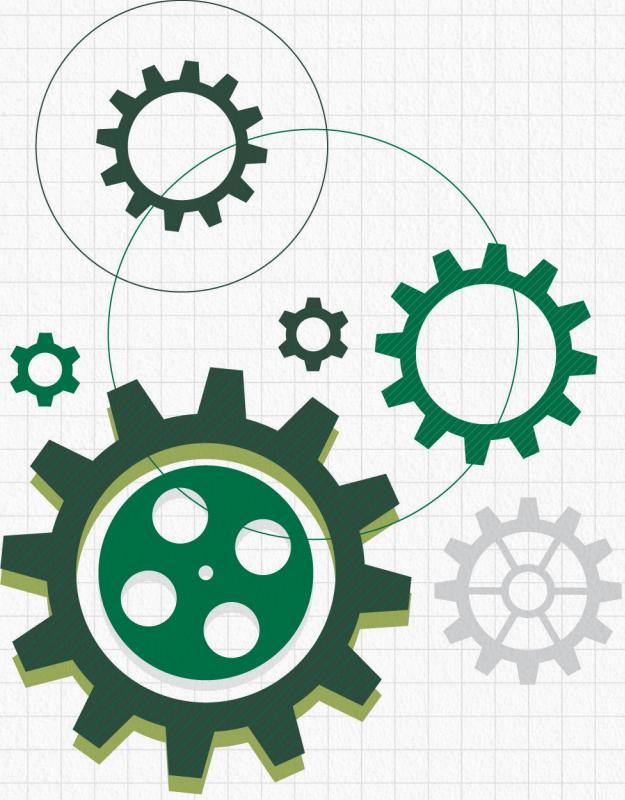
## INDUSTRIAL ENGINEERING DEPARTMENT

Gokongwei College of Engineering  
De La Salle University  
2401 Taft Avenue, Manila

Telephone Number: (632) 8524-4611 local 220 or 217

Telefax Number: (632) 8524-0563

Email Address: IEChair@dlsu.edu.ph



# **MANUFACTURING ENGINEERING AND MANAGEMENT DEPARTMENT**

## **VISION**

The Department of Manufacturing Engineering and Management aims to be technologically-driven, industry-relevant, multidisciplinary in accordance with the La Sallian guiding principles, and imbued with the animo spirit.

## **MISSION**

To provide the industry with multi-disciplined graduates who are research-ready, service-oriented, socially responsible, and with a passion for entrepreneurial endeavors.

- Our Mechatronics and Robotics Engineering graduates will be competent in the multifaceted world of manufacturing and will be prepared to integrate into various levels of management.
- Our Biomedical Engineering graduates will be synergistic with their ever-developing field and will possess a genuine desire to improve our quality of life.
- Our Clinical Engineering graduates are attuned to the ever-improving industry of healthcare and will be conscientious in the application of new technologies in medicine.

# **GRADUATE PROGRAMS**

## **BACHELOR/MASTER OF SCIENCE**

### **IN MANUFACTURING ENGINEERING**

#### **36 UNITS**

The Program is for qualified students who want to enhance their knowledge of manufacturing engineering, industrial design, management, leadership, and materials science.

Focus is on the creation of products, design processes, and the technology behind those processes. By emphasizing industry-relevant research, it prepares students to be leaders in manufacturing engineering.

Methods of Research	3	Elective Courses <sup>b</sup>	6
Advanced Mathematics	6	Comprehensive Exam <sup>c</sup>	0
Specialization Courses <sup>a</sup>	15	Thesis <sup>d</sup>	6

Orientation for Non-DLSU graduates (1)

Note:

- a. Specialization Courses to be taken must be related to the research or Thesis output.
- b. Elective Courses are courses that are offered in other engineering graduate programs.
- c. Comprehensive Exam must be passed prior to the conduct of the Thesis.
- d. Publication of the Thesis output in a refereed journal is required for graduation.
- e. 6 units of the academic courses taken from the MS in Manufacturing Engineering program can be credited to the BS in Manufacturing Engineering and Management.

## **MASTER OF ENGINEERING**

### **MAJOR IN MANUFACTURING ENGINEERING**

#### **36 UNITS**

The Program is for qualified students who want to enhance their knowledge of manufacturing engineering, industrial design, management, leadership, and materials science.

Focus is on the creation of products, design processes, and the technology behind those processes. By emphasizing industry-relevant research, it prepares students to be leaders in manufacturing engineering.

The MEP-MFGE Program is a graduate professional degree in engineering for students who have already earned a BS degree in any field of engineering.

Methods of Research	3	Elective Courses <sup>b</sup>	6
Advanced Mathematics	6	Comprehensive Exam <sup>c</sup>	0
Specialization Courses <sup>a</sup>	15	Practicum	6

Orientation for Non-DLSU graduates (1)

Note:

- a. Specialization Courses to be taken must be related to the research or Practicum output.
- b. Elective Courses are courses that are offered in other engineering graduate programs.
- c. Comprehensive Exam must be passed prior to the conduct of the Practicum.

## **MASTER OF SCIENCE**

### **IN MANUFACTURING ENGINEERING**

#### **36 UNITS**

The Program is for qualified students who want to enhance their knowledge of manufacturing engineering, industrial design, management, leadership, and materials science.

Focus is on the creation of products, design processes, and the technology behind those processes. By emphasizing industry-relevant research, it prepares students to be leaders in manufacturing engineering.

The MS-MFGE Program is a graduate professional degree in engineering for students who have already earned a BS degree in any field of engineering.

Methods of Research	3	Elective Courses <sup>b</sup>	6
Advanced Mathematics	6	Comprehensive Exam <sup>c</sup>	0
Specialization Courses <sup>a</sup>	15	Thesis <sup>d</sup>	6

Orientation for Non-DLSU graduates (1)

Note:

- a. Specialization Courses to be taken must be related to the research or Thesis output.
- b. Elective Courses are courses that are offered in other engineering graduate programs.
- c. Comprehensive Exam must be passed prior to the conduct of the Thesis.
- d. Publication of the Thesis output in a refereed journal is required for graduation.

## **DOCTOR OF PHILOSOPHY**

### **IN MANUFACTURING ENGINEERING**

#### **36 UNITS**

The Program is for qualified students who want to enhance their knowledge of manufacturing engineering, industrial design, management, leadership, and materials science.

The program is focused on the creation of products, design processes, and the technology behind those processes. By emphasizing industry-relevant research, it prepares students to be leaders in manufacturing engineering.

The PHD-MFGE program is a graduate professional degree in engineering for students who have already earned a BS and MS degrees in any field of engineering.

Philosophy of Technology	3	Specialization Courses <sup>a</sup>	12
Seminars	3	Comprehensive Exam <sup>b</sup>	0
Technopreneurship	3	Dissertation <sup>c</sup>	12
Methods of Research	3		
Orientation for Non-DLSU graduates (1)			

Note:

- a. Specialization Courses to be taken must be related to the student's research field or Dissertation.
- b. Comprehensive Exam must be passed prior to the conduct of the Dissertation.
- c. Publication of the Dissertation output in a refereed journal is required for graduation

# MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

## 36 UNITS

The Program is for qualified students who want to enhance their knowledge of biomedical engineering, healthcare facilities management, industrial design, and materials science.

Biomedical Engineering is the application of the principles and concepts of science methodologies and engineering to the analysis of biological and physiological problems and delivery of healthcare services.

The MS-BME Program is a graduate professional degree in engineering for students who have already earned a BS degree in any field of engineering.

Methods of Research	3	Elective Courses <sup>b</sup>	6
Advanced Mathematics	6	Comprehensive Exam <sup>c</sup>	0
Specialization Courses <sup>a</sup>	15	Thesis <sup>d</sup>	6
Orientation for Non-DLSU graduates (1)			

Note:

- a. Specialization Courses to be taken must be related to the research or Thesis output.
- b. Elective Courses are courses that are offered in other engineering graduate programs.
- c. Comprehensive Exam must be passed prior to the conduct of the Thesis.
- d. Publication of the Thesis output in a refereed journal is required for graduation.

# FACULTY

## FULL TIME FACULTY MEMBERS

### DR. ELMER P. DADIOS

Full Professor  
and University Fellow  
Ph.D. MFG - Loughborough University, UK  
Research Areas: Robotics, Neural Networks, AI, Software Engineering, Automation  
elmer.dadios@dlsu.edu.ph

### DR. NILO T. BUGTAI

Full Professor  
Ph.D. MFG - Loughborough University  
Research Areas: AI, Automation, Biomedical Engineering, Manufacturing Engineering  
nilo.bugtai@dlsu.edu.ph

### HOMER S. CO

Adjunct Professor  
MS ME- University of New Mexico  
Research Areas: Biomedical Engineering, Biomechanics, Biomaterials and Nanomaterials, Tissue Engineering, Nonlinear Dynamical Systems and Damage Mechanics  
homer.co@dlsu.edu.ph

### DR. RYAN RHAY P. VICERRA

Full Professor  
MS ECE - De La Salle University  
Ph.D. ECE - De La Salle University  
Research Areas: Control Systems, Computational Intelligence, Fuzzy Logic  
ryan.vicerra@dlsu.edu.ph

### DR. RENANN G. BALDOVINO

Associate Professor  
Ph.D. ECE - De La Salle University  
Research Areas: Mechatronics, Biomedical Engineering, Artificial Intelligence  
renann.baldovino@dlsu.edu.ph

### DR. NICANOR R. ROXAS JR.

Associate Professor  
Ph.D. CE - De La Salle University  
Research Areas: Transportation Engineering  
nicanor.roxas@dlsu.edu.ph

### DR. ARMYN C. SY

Associate Professor  
Ph.D. ECE - De La Salle University  
Research Areas: Industrial Automation, Control Systems, Robotic Rehabilitation Devices and Control, Automated Control Systems for Agri/Aquaculture  
armyn.sy@dlsu.edu.ph

### DR. ROBERT KERWIN D. BILLONES

Associate Professor  
Ph.D. ECE - De La Salle University  
Research Areas: AI, Biomedical Engineering, Biomedical Computing, Business Model Research, Cloud Computing, Computer Vision, Data Engineering, Edge Computing, High Performance Computing, Intelligent Systems, Signal Processing, Smart Cities, Smart Mobility, Technology Management  
robert.billones@dlsu.edu.ph

### DR. IRA C. VALENZUELA

Associate Professor  
Ph.D. ECE - De La Salle University  
Research Areas: AI, Evolutionary Computing, Machine Learning, Microelectronics, Automation  
ira.valenzuela@dlsu.edu.ph

### MARLON LUIS M. MUSNGI

Assistant Professor  
ME ME - National University of Singapore  
Research Areas: Mechatronics, Automation, Robotics  
marlon.musngi@dlsu.edu.ph

### JOSEPH REY H. STA. AGUEDA

Assistant Professor  
Ph.D. CE Candidate - De La Salle University  
Research Areas: Tissue Engineering, Biomaterials Development, Additive Manufacturing, Product Design  
joseph.staagueda@dlsu.edu.ph

### ENGR. MICHAEL V. MANGUERRA

Assistant Professor  
MS ECE - De La Salle University  
Research Areas: Biomedical Engineering and Assistive Devices  
michael.manguerra@dlsu.edu.ph

# ADMISSIONS REQUIREMENTS

SUBMIT THE FOLLOWING DOCUMENTS TO THE DLSU OFFICE OF ADMISSIONS AND SCHOLARSHIPS FOR PRELIMINARY EVALUATION:

- Application form with 2x2" picture with white background
- Official Transcript of Records (Two copies, original and photocopy)
- Two 2x2" ID pictures

## Financial Assistance and Scholarships

Deserving students may avail of financial aid or scholarship grants from the following:

- DLSU Office of Admissions and Scholarships
- Department of Science and Technology
  - Engineering Research and Development for Technology (DOST-ERDT)
- CHED Faculty Department Program and Scholarships through the Office of Admissions and Scholarships
- Office of the Vice Chancellor for Academics, DLSU

# CONTACT INFORMATION

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

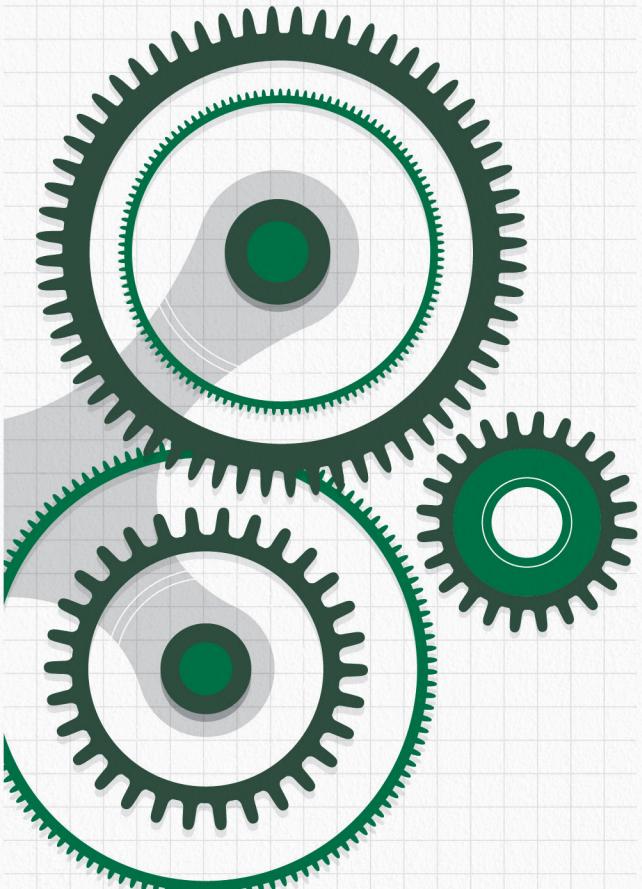
Student Services Hub, 2nd floor Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue Manila

Email: graduate.admissions@dlsu.edu.ph

## DEPARTMENT OF MANUFACTURING ENGINEERING AND MANAGEMENT

8F Br. Andrew Gonzales FSC Hall  
De La Salle University  
2401 Taft Avenue, Manila, Philippines

# **MECHANICAL ENGINEERING DEPARTMENT**



Mechanical Engineering (ME) is a broad field of engineering that encompasses the traditional areas of mechanical design, energy and environment, fuel and combustion technologies, engineering materials, and product safety as well as the high-tech areas such as mechatronics and robotics. With the concentration in Mechatronics Engineering, the ME program is now a convergence point of the areas of electronics, computer, and control engineering.

The training provided by the program prepares students for various career options in the industry, academia, and government. The fields of practice include operations, maintenance, installation, testing, research and development, design, consulting, management, sales, marketing, and teaching.

Through activities hosted by the American Society of Mechanical Engineers-International and American Society of Heating, Refrigerating, and Air-Conditioning Engineers, the students are given opportunities for international exposure thereby preparing them for global practice of ME.

## **GRADUATE PROGRAMS**

### **DOCTOR OF PHILOSOPHY**

**IN MECHANICAL ENGINEERING**

**40 UNITS**

The Doctor of Philosophy in Mechanical Engineering Program aims to provide students an understanding of scientific and engineering principles and develop research skills to creatively solve engineering problems and develop new knowledge in their field of specialization. Students have the option to focus on thermo-fluids engineering, energy and environment, or mechatronics or robotics.

### **MASTER OF SCIENCE**

**IN MECHANICAL ENGINEERING**

**36 UNITS**

The Master of Science in Mechanical Engineering Program is oriented toward a career in research, particularly in the fields of thermo-fluid engineering, energy and environmental technologies, and mechatronics engineering. The program is for graduate students who intend to start a research career or pursue a doctoral degree.

### **MASTER OF ENGINEERING**

**MAJOR IN MECHANICAL ENGINEERING**

**48 UNITS**

The Master of Engineering Program prepares engineers for advanced professional practice. The degree is accomplished through the completion of courses and a practicum with special project, which is aimed at training graduate students in the industrial applications of theories and methods learned in school.

## **UNDERGRADUATE PROGRAMS**

### **BACHELOR OF SCIENCE**

**IN MECHANICAL ENGINEERING  
WITH CONCENTRATION IN**

### **MECHATRONICS ENGINEERING**

The program's primary classes are offered on statics, the study of forces apart from motion, followed by dynamics, the study of parts that move. Other courses include mechanics of materials, kinematics, machine design, heat transfer and thermal dynamics, and material science. Elective courses include management of technology, alternative sources of energy, energy management, and automotive technology.

Engineering ethics, mechanical engineering law, contracts and specifications, industrial safety and health, and engineering management are taken in the final year to prepare candidates for professional practice. To complete the program, candidates undergo industrial practice or on-the-job training and undertake a research project for one year.

## **AREAS OF CONCENTRATION**

### **MECHATRONICS AND ROBOTICS**

Integrates mechanical, electronics, computer, and control engineering and their key areas including sensors and instrumentation systems; microcomputer control systems; and computer-aided engineering design. Control strategies include the implementation of artificial or computational intelligence paradigm.

### **ENERGY AND ENVIRONMENT**

Combines the knowledge required in the fields of thermal, fluid, and environmental sciences; power engineering; and economy and management, including research and development of new and renewable energy systems and sustainable technologies.

# ACHIEVEMENTS

# FACULTY

## CHED CENTER OF EXCELLENCE

For its instructional program, research, and community initiatives, the DLSU Mechanical Engineering Department is the lone Center of Excellence in Mechanical Engineering in the country conferred by the Commission on Higher Education, (CHED).

## MICRO-HYDRO PROJECT

The Mechanical Engineering Department is a leading proponent of micro-hydro projects that give electricity services to poor communities all over the country. The project, which is recognized by the Department of Energy, CHED, and PNOC, provides participants hands-on experience in the design, construction, and commission of small-scale hydro systems and offers a step towards careers in renewable energy management.

## SOLAR CAR PROJECTS

Along with the DLSU Electronics and Communications Engineering (ECE) Department, the ME Department has created the first solar powered car in the country. Interested students will have first-hand experience in designing and developing a solar powered car. Students have a chance to join and race in the World Solar Challenge in Australia.

## ECO CAR PROJECTS

Also with the ECE Department, the ME Department spearheads the creation of aerodynamic, ultra-efficient, and eco-friendly vehicles that participate in the annual Shell Eco Marathon Asia. Students of Mechanical Engineering learn technical knowledge and apply it in the design and fabrication of small energy-efficient and functioning vehicles.

## OUTSTANDING STUDENT ORGANIZATION

Mechanical Engineering Society (MES), a student organization, is an accredited student section of the American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE). MES is an outstanding student organization and has obtained the highest accreditation points among ASHRAE student branches in the ASEAN region.

## LABORATORY FACILITIES

Laboratory and computing facilities are some of the best in the country, exceeding CHED requirements.

## TOP PERFORMANCE IN THE BOARD EXAMS

The Professional Regulation Commission recognizes the ME Department for its consistent top performance in the mechanical engineering licensure examination.

## DR. GERARDO L. AGUSTO

Ph.D., DLSU  
MENG, Nagoya University, Japan  
Thermo-Fluid Sciences,  
District Cooling System,  
Wind Turbine Technology

## DR. JOSE BIENVENIDO

### MANUEL BIONA

Ph.D., DLSU  
Environmental Modeling,  
Renewable Energy,  
Sustainable Transport

## DR. ALVIN Y. CHUA

Ph.D. and MS, DLSU  
Mechatronics, Instrumentation  
and Controls, Optimal Estimation

## DR. ALVIN B. CULABA

Ph.D., Portsmouth University, UK  
MFNG, AIT, Bangkok  
Energy and Environmental System,  
Engineering and Management,  
Life Cycle Analysis

## DR. EFREN DELA CRUZ

Ph.D., DLSU  
MS, PLM  
Energy and Techno-design  
Engineering; Refrigeration,  
and Air-conditioning

## ANTHONY ESCOLAR

BS, DLSU  
Power Plant and Automotive  
Engineering

## ENGR. ARVIN H. FERNANDO

MS, DLSU  
Equipment and Machine  
HVAC, Piping System Design

## ENGR. JEREMIAS A. GONZAGA

MS, DLSU  
Renewable Energy,  
Life Cycle Analysis

## DR. MARTIN ERNESTO KALAW

Ph.D. candidate, DLSU  
MS, DLSU  
Thermal-Fluid Sciences

## DR. LAURENCE GAN LIM

Ph.D., Coventry University, UK  
MS, DLSU  
Mechatronics, Robotics,  
Computer Vision Analysis

## ENGR. NEIL STEPHEN LOPEZ

BS and MS, DLSU  
Fluid Dynamics, Heat  
Transfer and Thermal Systems,  
Sustainable Transport

## DR. ARCHIE B. MAGLAYA

Ph.D., TUP  
MEE, DLSU  
Equipment and Machine  
Design, Renewable Energy,  
Power Plant Engineering

## ENGR. ISIDRO ANTONIO MARFORI III

MS, DLSU  
CAD, CAM, Machine Shop  
Practices, Hydro Turbine  
Design, Computational Fluid  
Dynamics Application

## ENGR. CONRAD PANTUA

MS, National University  
of Singapore  
Composite Materials,  
Computer-aided Product  
Design and Simulation,  
Manufacturing Technology  
and Automation

## DR. ARISTOTLE T. UBANDO

Ph.D., DLSU  
MS, UP-D  
Life Cycle Analysis,  
Computational Fluid  
Dynamics, Energy and  
Process Optimization

# ADMISSIONS AND SCHOLASHIPS

## GRADUATE ADMISSIONS PROCEDURE

Submit the following documents to the DLSU Office of Admissions and Scholarships for preliminary evaluation:

- Application Form with 2"x 2" picture with white background
- Official Transcript of Records (two copies, original, and photocopy)
- Two 2"x 2" ID pictures
- Curriculum vitae

For PhD applicants, results of preliminary evaluation may be verified with the Office of Admissions and Scholarships one week before entrance examination.

Financial Assistance and Scholarships  
Deserving students may avail of financial aid or scholarship grants from the following:

- DLSU Office of Admissions and Scholarships
- Department of Science and Technology
  - Engineering Research and Development for Technology (DOST-ERDT)
- CHED Faculty Development Program II Scholarship through the Office of Admissions and Scholarships
- Office of the Vice Chancellor for Academics, DLSU

# CONTACT INFORMATION

## OFFICE OF ADMISSIONS AND SCHOLARSHIPS

Student Services Hub, 2nd floor Henry Sy, Sr. Hall  
De La Salle University  
2401 Taft Avenue, Manila

Telephone: (632) 85244611 local 166

## MECHANICAL ENGINEERING DEPARTMENT GOKONGWEI COLLEGE OF ENGINEERING

Room M113, St. Miguel Building  
De La Salle University  
2401 Taft Avenue, Manila

Telefax: (632) 8524-4611 local 299 or 308



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