

## NDDU VISION-MISSION STATEMENT

### VISION

Notre Dame of Dadiangas University is a Catholic, Filipino Institution of Academic Excellence established by the Marist Brothers of the Schools (*F.M.S.-FratresMaristae a Scholis*) characterized by St. MarcellinChampagnat's ideals of simplicity, humility and quiet zeal for God's work as inspired by the Blessed Virgin Mary. The school is dedicated to the formation of persons in all levels of learning, who, as **Christian Leaders, Competent Professionals, Community-Oriented Citizens and Culture-Sensitive Individuals** will actively participate in building a peaceful and progressive nation.

### MISSION

- As a **Catholic Educational Institution**, NDDU shares in the Church's mission of evangelization by integrating life and faith;
- As a **Filipino Institution**, NDDU seeks to preserve Filipino Culture and propagate love of country and its people;
- As an **Institution of Quality Education**, NDDU aims leadership in Curricular Programs, Multi-Disciplinary Programs, Research, and Community Service;
- As a **Marist Institution**, NDDU promotes the core values of Family Spirit, Marian Spirit, Simplicity, Presence, Preference for the Least Favored, Love of Work, and Integrity of Creation; and
- As a **Community-Oriented Institution**, NDDU aims to respond to the challenges of the locality it is serving: South Cotabato, Sultan Kudarat, Sarangani Province and, General Santos City (SOCKSARGEN Area).

## COLLEGE OBJECTIVES

The College of Engineering and Technology aims to:

- Educate students to become Christian leaders, competent professionals, community oriented citizens, and culture sensitive individuals in order to contribute to the professional workforce in Engineering, Architecture, and Information Technology/
- Serve the Engineering, Architecture, and Information Technology professions and the society through excellence in research and innovation that discovers new knowledge and enable new technologies and systems
- Embrace a culture of service to the local, national, and international communities.
- Equip students with employable skills along with a sense of social, moral and environmental responsibility.
- Produce graduates highly specialized in civil, electrical, electronics, industrial, and computer engineering, information technology and Architecture that have a strong foundation in the basic physical, behavioral and social sciences and holistically consider the economic, social and environmental relevance to projects undertaken.

For more information, please see  
The University Registrar or  
Call (083) 552 4444 local 2211,  
or visit us at  
[www.nddu.edu.ph](http://www.nddu.edu.ph)

## COURSES OFFERED

Notre Dame of Dadiangas University started operating its high school department in 1953. In 1959 the school offered the following courses: Liberal Arts, Commerce and one (1) year Secretarial course. However, NDDU endeavors to keep up with the demands of the times and with the modern trends in education, as well as to contribute to the manpower building of the General Santos community and of the country. To attain these, it now offers more programs relevant to the needs of the country. The following are the programs:

### I. POST GRADUATE

- Doctor in Management (DM) major in Human Resource Management
- Doctor of Philosophy in Education (Ph.D.Ed.)
- Doctor of Philosophy in Language Education (Ph.D.LE)
- Doctor of Philosophy in Science Education (Ph.D.Sci.Ed.) Major in Biology

### II. GRADUATE with Accreditation Level

- Master in Business Administration (MBA) (Thesis & Non-Thesis) Level II
- Master in Public Administration (MPA) (Thesis & Non-Thesis) Level II
- Master of Arts in Education (MAEd) Level II

#### Areas of Specialization:

- Mathematics, Guidance & Counseling,
- Teaching English as a Second Language, Educational Management,
- Science Education, Religious Education and Early Childhood Education
- Master in Engineering Program Major in Civil Engineering
- Master of Arts in Nursing (MAN)

### III. UNDERGRADUATE with Accreditation Level

#### Five Year Courses

- Bachelor of Science in Architecture (BSArch)
- Bachelor of Science in Pharmacy (BSPharma)

#### Four Year Courses

- Bachelor of Science in Civil Engineering (BSCE) Level II
- Bachelor of Science in Computer Engineering (BSCpE)
- Bachelor of Science in Electrical Engineering (BSEE) Level I
- Bachelor of Science in Electronics and Communications Engineering (BSECE)
- Bachelor of Science in Industrial Engineering (BSIE) Level II
- Bachelor of Arts (AB) Level IV
- Major in: Political Science, English, Communication, and Psychology
- Bachelor of Science in Biology (BSBio)
- Bachelor of Science in Mathematics (BSM)
- Bachelor of Science in Accountancy (BSA) Level II
- Bachelor of Science in Business Administration (BSBA) Level IV
- Major in: Business Economics, Financial Management, Marketing Management, Human Resource Management
- Bachelor of Science in Entrepreneurship (BSEn)
- Bachelor of Science in Hospitality Management (BSHM)
- Bachelor of Science in Internal Auditing (BSIA)
- Bachelor of Science in Management Accounting (BSMA)
- Bachelor of Science in Tourism Management (BSTM)
- Bachelor of Early Childhood Education (BECEd) Level IV
- Bachelor of Elementary Education (BEEd) Level IV
- Bachelor of Secondary Education (BSEd) Level IV
- Major in: English, Science, Mathematics, Religious Education
- Bachelor of Physical Education (BPEd)
- Bachelor of Special Needs Education Major in Elementary School Teaching (BSNEd)
- Bachelor of Science in Computer Science (BSCS) Level II
- Bachelor of Science in Entertainment and Multimedia Computing (BSEMC)
- Bachelor of Science in Environmental Planning (BSEP)
- Bachelor of Science in Information Technology (BSIT) Level II
- Bachelor of Library & Information Science (BLIS)
- Bachelor of Science in Medical Technology (BSMT)
- Bachelor of Science in Nursing (BSN) Level III

## College of Engineering and Technology NOTRE DAME OF DADIANGAS UNIVERSITY

Marist Avenue, General Santos City



# Course Catalogue

## BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

(Government Recognition No.287 Series of 1999)

Effective SY 2018 – 2019

Student's Name	
Contact Number	
Email Address	
Student's Signature	

# THE FOUR-YEAR CURRICULUM LEADING TO THE DEGREE BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING(BSIE)

Per CHED Memorandum Order (CMO) No.96, Series of 2017  
Effective SY 2018 – 2019\*

## COURSE DESCRIPTION:

Industrial Engineering is concerned with the design, improvement, and installation of integrated system of people, materials, information, equipment, and energy. Draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems.

## Program Educational Objectives:

At the end of the degree program, the students should :

- Perform as industry leaders in the global marketplace, capable of successfully planning, controlling, and implementing large-scale projects
- Maintain state-of -the art knowledge through lifelong learning, such as graduate study, and continuing education.
- have developed consciousness of the ethical, legal and social responsibility of industrial engineers and of the environmental effects of engineering projects to the community by responding to the changing impact of engineering solutions in a local and global context.
- Contribute to the profitable growth of industrial economic sectors by using IE analytical tools, effective computational approaches, and systems thinking methodologies.
- Support the industrial engineering profession through participation in professional societies, civic groups, and educational institutions.
- imbibe in themselves the Christian values anchored on the ideals of St. MarcellinChampagnat by maintaining high standards of professional and ethical responsibility.

## Program Outcomes:

Graduates of the BSIE program must have

- a.) ability to apply knowledge of mathematics and science to solve complex industrial engineering problems
- b.) ability to design and conduct experiments, as well as to analyze and interpret data
- c.) ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,in accordance with standards
- d.) ability to function on multidisciplinary and multicultural teams
- e.) ability to identify, formulate, and solve complex industrial engineering problems
- f.) understanding of professional and ethical responsibility
- g.) ability to communicate effectively
- h.) broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i.) recognition of the need for, and an ability to engage in life-long learning
- j.) knowledge of contemporary issues
- k.) ability to use techniques, skills, and modern engineering tools necessary for engineering practice
- l.) knowledge and understanding of engineering and management principles as a member and leader in a team, to manage projects in multidisciplinary environments
- m.) ability to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy.

- Students shall be responsible to write their official grades on the space provided.
- Student shall always make this document available for evaluation purposes, especially during enrolment.
- For Non-Catholics, RE 114 and RE 115 could be replaced with RE 40 and RE 30 respectively.
- NSTP 1, NSTP 2, PGS 1 and PGS 2 must be taken during the First Year.
- 3<sup>rd</sup> year standing – must have completed all first year to second year subjects
- 4<sup>th</sup> year standing must have completed all first year to third year subjects.

## FIRST YEAR – FIRST SEMESTER

Grade	Cat. #	Descriptive Title	# of Hrs/Wk Lec Lab	Units	Pre-Req
	RE 111	Salvation Hist. Old Testament	3 0	3	
	GE 3	Mathematics in the Modern world	3 0	3	
	GE 5	Purposive Communication	3 0	3	
	GE 10	KontekstwalisadongKomunikasyonsa Filipino	3 0	3	
	MATH 115	Differential Calculus	5 0	5	
	CHEM 113	Chemistry for Engineers (Lec)	3 0	3	
	CHEM 114	Chemistry for Engineers (Lab)	0 3	1	
	BES 111	Industrial Engineering Orientation	2 0	2	
	PE 1	Physical fitness & self-testing activities	2 0	2	
	PGS 1	Personal Growth Session 1	3 0	0	
	<b>Total</b>		<b>27 3</b>	<b>25</b>	

## FIRST YEAR – SECOND SEMESTER

	RE 112	Christology	3 0	3	RE 111
	GE 11	Filipino saiba'tibangdisiplina	3 0	3	
	MATH 220	Integral Calculus	5 0	5	MATH 115
	PHYS 212	Physics for Engineers – lec (NPS)	3 0	3	MATH 115,
	PHYS213	Physics for Engineers – lab (NPS)	0 3	1	Math220(co-req)
	BES 120	Computer-Aided Drafting	0 3	1	
	BES 121	Computer Fundamentals & Programming 1	0 3	1	
	IE-PC 120	Statistical Analysis for Industrial Engineering 1	3 0	3	
	PE 2	Rhythmic Activities	2 0	2	
	PGS 2	Personal Growth Session 2	3 0	0	
	<b>Total</b>		<b>22 9</b>	<b>22</b>	

## FIRST YEAR – SUMMER

	NSTP 1	Nat'l Service Training Prog 1	3 0	3	
	NSTP2	Nat'l Service Training Prog 2	3 0	3	
	<b>Total</b>		<b>6 0</b>	<b>6</b>	

## SECOND YEAR – FIRST SEMESTER

	RE 113	Christian Faith	3 0	3	RE 112
	MATH 226	Differential Equations	3 0	3	MATH 220
	ECON 13	Principles of Economics	3 0	3	
	BES 210	Statics of Rigid Bodies (Engineering Mechanics)	3 0	3	MATH 220 Phys 212,213
	BES 212	Computer Fundamentals & Programming 2	0 3	1	BES 121
	IE-PC 210	Industrial Materials and Processes	2 3	3	Chem.113/114 Phys 213/214
	IE-PC 211	Statistical Analysis for Industrial Engineering 2	3 0	3	IE-PC 120
	IE-PC 212	Industrial Organization & Management	3 0	3	2 <sup>nd</sup> year standing
	PE 3	Recreational activities(individual &dual sports)	2 0	2	
	<b>Total</b>		<b>22 6</b>	<b>24</b>	

## SECOND YEAR – SECOND SEMESTER

	RE 114	The Church	3 0	3	RE 113
	ACCTG 220	Financial Accounting	3 0	3	
	GE 1	Understanding the self	3 0	3	
	MATH 317	Advance Engineering Mathematics for IE	3 0	3	Math 226
	BES 223	Engineering Economy	3 0	3	2 <sup>rd</sup> yr standing
	IE-PC 220	Work, Study and Measurement	3 3	4	IE-PC120,210,212
	PE 4	Team sports	2 0	2	PE 1
	<b>Total</b>		<b>20 3</b>	<b>21</b>	

## THIRD YEAR – FIRST SEMESTER

Grade	Cat. #	Descriptive Title	# of Hrs/Wk Lec Lab	Units	Pre-Req
	RE 115	Liturgy and Sacraments	3 0	3	RE 114
	GE 6	Science, Technology and Society	3 0	3	
	IE-PC 310	Operations Research 1	2 3	3	Math 317
	IE-PC 311	Quality Management Systems	3 0	3	IE-PC 211/220
	IE-PC 312	Ergonomics 1	2 3	3	IE-PC 220
	IE-PC 313	Basic Occupational Safety & Health	3 0	3	3 <sup>rd</sup> yr standing
	Acctg 321	Managerial Accounting	3 0	3	Acctg 220
	<b>Total</b>		<b>19 6</b>	<b>21</b>	

## THIRD YEAR – SECOND SEMESTER

	RE 116	Christian Morality	3 0	3	RE 115
	GE 4	Contemporary World	3 0	3	
	BES 320	Technopreneurship 101	3 0	3	3 <sup>rd</sup> yr standing
	EAC 321	Basic Thermodynamics	2 0	2	MATH 220, Phys212, 213
	IE-PC 320	Research Methods for IE	3 0	3	3 <sup>rd</sup> yr standing
	IE-PC 321	Operations Management	3 3	4	IE-PC 310/311
	IE-PC 322	Ergonomics 2	2 3	3	IE-PC 312
	IE-PC 323	Operations Research 2	2 3	3	IE-PC 310
	<b>Total</b>		<b>21 9</b>	<b>24</b>	

## THIRD YEAR – SUMMER

	IE-PC 400	Industry immersion (240 hours)	2 3	3	
	<b>Total</b>		<b>2 3</b>	<b>3</b>	

## FOURTH YEAR – FIRST SEMESTER

	GE 2	Readings in Philippine History	3 0	3	
	GE 8	Ethics	3 0	3	
	IE-PC 410	Project Feasibility	2 3	3	Acctg321,IE-PC321
	IE-PC 411	Supply Chain Management	3 0	3	IE-PC 321
	IE-PC 412	Information Systems	3 0	3	BES 212, 4 <sup>TH</sup> year standing
	IE-PC 413	Systems Engineering	3 0	3	4 <sup>TH</sup> year standing
	EAC 410A	Environmental Science &Eng'g	3 0	3	
	EAC 411	Elementary Electrical Engineering	3 0	3	Phys 212/213
	<b>Total</b>		<b>23 3</b>	<b>24</b>	

## FOURTH YEAR – SECOND SEMESTER

	GE 7	Art Appreciation	3 0	3	
	GE 9	Rizal's Life, Works & Writings	3 0	3	
	GE 13	Sosyedad at literatura/panitikangpanlipunan	3 0	3	
	IE-PC 420	IE Capstone Project	1 6	3	4 <sup>TH</sup> year standing
	IE-EC 420	IE Elective 1 – Lean Six Sigma	3 0	3	
	IE-EC 421	IE Elective 2 – Project Management	3 0	3	
	IE-EC 422	IE Elective 3 – Personnel Management	3 0	3	
	<b>Total</b>		<b>19 6</b>	<b>21</b>	
		Grand Total	<b>181 48</b>	<b>191</b>	

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