



## **SYSTEM- INPUTS AND PROCESSES**

- S. 1. The curriculum provides for the development of the following professional competencies:



**BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)**

Based on CMO No. 88, s. 2017

Effective A.Y 2022-2023

First Year First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
MATH 110	Basic Engineering Mathematics	0	1	1	None
MATH 111	Calculus 1	4	0	4	None
ES 133 ( ES 101 )	Computer-aided Drafting	0	1	1	None
GE Math	Mathematics in the Modern World	3	0	3	None
GE PurCom	Purposive Communication	3	0	3	None
CHEM 121 ( CHEM 101 )	Chemistry for Engineers	3	1	4	None
PE 1 (PATHFit 1)	Movement Competency Training or MCT	2	0	2	None
NSTP 1	National Service Training Program 1	3	0	3	None
<b>Sub- Total</b>		<b>18</b>	<b>3</b>	<b>21</b>	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 112	Calculus 2	4	0	4	Math 111
Phys 122 (Phys 102)	Physics for Engineers	3	1	4	Math 111; Co-requisite Math 112
GE Entrep	The Entrepreneurial Mind	3	0	3	None
GE LITE	Living in the IT Era	3	0	3	None
CPE 143 (CPE 101)	Computer Programming	0	1	1	None
GE USelf	Understanding the Self	3	0	3	None
PE 2 (PATHFit 2)	Exercise-based Fitness Activities	2	0	2	None
NSTP 2	National Service Training Program 2	3	0	3	NSTP 1
<b>Sub- Total</b>		<b>21</b>	<b>2</b>	<b>23</b>	

Second Year First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 113	Differential Equations	3	0	3	Math 112
EE 201 (EE 102)	Electrical Circuits 1	3	1	4	Phys 122; Math 112
Math 114	Engineering Data Analysis	3	0	3	Math 111
IC 104	Review in Mathematics	3	0	3	None
GE Hist	Readings in Philippine History	3	0	3	None
GE Rizal	Life and Works of Rizal	3	0	3	None
GE STS	Science, Technology and Society	2	0	2	None
PE 3 (PATHFit 3)	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor and Adventure Activities	2	0	2	None
<b>Sub- Total</b>		<b>22</b>	<b>1</b>	<b>23</b>	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 161	Engineering Mathematics for EE	3	0	3	Math 113
EE 202 (EE 103)	Electrical Circuits 2	3	1	4	EE 201
ECE 201 ( ECE 101 )	Electronic Circuits: Devices and Analysis	3	1	4	EE 201
ES 262 (ES 102)	Basic Thermodynamics	2	0	2	Phys 122
GE ArtApp	Art Appreciation	0	1	1	None
GE ConWorld	Contemporary World	3	0	3	None
ES 255	Engineering Mechanics	3	0	3	Phys 122 (Phys 102)
PE 4 (PATHFit 4)	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor and Adventure Activities	2	0	2	None
<b>Sub- Total</b>		<b>19</b>	<b>3</b>	<b>22</b>	

Third Year First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 301 (104)	Numerical Methods and Analysis	2	1	3	Math 161
ECE 371 (ECE 102)	Logic Circuits and Switching Theory	2	0	2	ECE 201
ES 261 (ES 104)	Fundamentals of Deformable Bodies	3	0	3	Math 114; GE PurCom
ES 302 (ES 105)	Fluid Mechanics	2	0	2	ES 262
ES 137 (ES 106)	Engineering Economics	3	0	3	3rd year standing
ECE 252 (ECE 103)	Electromagnetics	2	0	2	None
EE 311 (EE 105)	Industrial Electronics	3	1	4	ECE 201
EE 312 (EE 106)	Fundamentals of Electronic Communications	3	0	3	ECE 201
EE 302 (EE 107)	Electrical Machines 1	1	1	2	ECE 252; EE 202
<b>Sub- Total</b>		<b>21</b>	<b>3</b>	<b>24</b>	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
CpE 371	Microprocessor Systems	2	0	2	ECE 371
ES 140 (107)	Research Methods	0	1	1	3rd year standing
EE 304 (EE 108)	Electrical Apparatus and Devices	2	1	3	EE 202
EE 303 (EE 109)	Electrical Machines 2	3	1	4	EE 302
ES 301 (ES 108)	Basic Occupational Safety and Health	3	0	3	3rd year standing
ES 246 (109)	Environmental Science and Engineering	2	0	2	Chem 121
EE 305 (EE110)	EE Law, Codes, and Professional Ethics	2	0	2	GE Eth
ECE 357	Feedback and Control Systems	2	0	2	Math 161; ECE 201
GE Eth	Ethics	3	0	3	None
<b>Sub- Total</b>		<b>19</b>	<b>3</b>	<b>22</b>	

Summer				
Course Code	Descriptive Title	No. of Hours	Units	Pre-requisite
Practicum	On-the-Job Training	240	2	4th Year Standing
<b>Sub- Total</b>		<b>240</b>	<b>2</b>	

Fourth Year First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
ES 142 (ES 110)	Materials Science and Engineering	2	0	2	CHEM 121; ES 261
EE 401 (EE 111)	Electrical Standards and Practices	0	1	1	EE 305
EE 402 (EE112)	Electrical Systems and Illumination Engineering Design	3	2	5	EE 303
EE 481 (EE 113)	Professional Elective 1(Power Systems Protection)	3	0	3	4th year standing
EE 164 (EE 114)	Management of Engineering Projects	2	0	2	ES 137
EE 422 (EE 115)	Research Project or Capstone Design Project for EE	0	1	1	ES 142
EE 403 (EE 116)	Instrumentation and Control	2	1	3	ECE 357
IC 105	EE REVIEW 2 (General Engineering Review)	0	1	1	5th year standing
<b>Sub- Total</b>		<b>12</b>	<b>6</b>	<b>18</b>	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 431 (EE 117)	Power Systems Analysis	3	1	4	EE 401
EE 432 (EE 118)	Fundamentals of Power Plant Engineering Design	0	1	1	Co-requisite: EE 431
EE 433 (EE 119)	Distribution Systems and Substation Design	2	1	3	Co-requisite: EE 431
EE 482 (EE 120)	Professional Elective 2 ( Electrical Audit Evaluation)	3	0	3	EE 481
ES 138 (ES 111)	Technopreneurship	3	0	3	4th year standing
ES 484	Seminars/Colloquia & Field Trips	0	1	1	4th year standing
IC 106	EE REVIEW 3	0	1	1	4th year standing
GE EnviSci	Environmental Science	3	0	3	None
<b>Sub- Total</b>		<b>14</b>	<b>5</b>	<b>19</b>	
<b>Grand Total</b>				<b>174</b>	

SUMMARY	UNITS
<b>I. Technical Courses</b>	
A. Mathematics	14
B. Natural/Physical Sciences	8
C. Basic Engineering Sciences	10
D. Allied Courses	31
E. Professional Courses	51
F. Electives	6
H. Institutional Courses	6
<b>Sub-Total</b>	<b>126</b>
<b>II. Non-Technical Courses</b>	
A. GE Education Courses	22
B. GEC Elective/Mandated Cour	12
C. Physical Education	8
D. NSTP	6
<b>Sub-Total</b>	<b>48</b>
<b>Grand-Total</b>	<b>174</b>



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BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)  
CMO No. 87, S. of 2017  
Effective A.Y 2020-2021

First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
MATH 111	Calculus 1	5	0	5	None
ES 133	Computer-aided Drafting	0	2	2	None
GE Math	Mathematics in the Modern World	5	0	5	None
GE USelf	Understanding the Self	3	1	4	None
CHEM 121	Chemistry for Engineers	3	0	3	None
IC 102	Introduction to Electrical Engineering	3	0	3	None
PE 1	Physical Fitness & Health	2	0	2	None
NSTP 1	National Service Training Program 1	3	0	3	None
Sub- Total		24	3	27	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 112	Calculus 2	5	0	5	Math 111
Phys 122	Physics for Engineers	3	1	4	Math 111; Co-requisite Math 112
GE Entrep	The Entrepreneurial Mind	3	0	3	None
GE IT	Living in the IT Era	3	0	3	None
CPE 143	Computer Programming	0	1	1	None
GE Rizal	Life and Works of Rizal	3	0	3	None
GE PurCom	Purposive Communication	3	0	3	None
PE 2	Rhythmic Activities	2	0	2	None
NSTP 2	National Service Training Program 2	3	0	3	NSTP 1
Sub- Total		27		27	

First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 113	Differential Equations	3	0	3	Math 112
EE 201	Electrical Circuits 1	3	1	4	Phys 122; Math 112
ES 255	Engineering Mechanics	3	0	3	Phys 122
Math 114	Engineering Data Analysis	3	0	3	Math 111
ES 302	Fluid Mechanics	2	0	2	Phys 122
GE AriApp	Art Appreciation	3	0	3	None
GE EnviSci	Environmental Science	3	0	3	None
PE 3	PE 3	2	0	2	None
Sub- Total		22	1	23	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 161	Engineering Mathematics for EE	3	0	3	Math 113
EE 202	Electrical Circuits 2	3	1	4	EE 201
ECE 201	Electronic Circuits: Devices and Analysis	3	1	4	EE 201
ES 252	Basic Thermodynamics	2	0	2	Phys 122
ES 137	Engineering Economics	3	0	3	Math 114
ECE 252	Electromagnetics	4	0	4	Phys 122; Math 113
GE Eth	Ethics	3	0	3	None
PE 4	PE 4	2	0	2	None
Sub- Total		23	2	25	

First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 301	Numerical Methods and Analysis	2	1	3	Math 161
ECE 371	Logic Circuits and Switching Theory	3	1	4	ECE 201
ES 246	Environmental Science and Engineering	3	0	3	None
GE STS	Science, Technology and Society	3	0	3	None
EE 311	Industrial Electronics	3	1	4	ECE 201
EE 312	Fundamentals of Electronic Communications	3	0	3	ECE 201
EE 302	Electrical Machines 1	2	0	2	ECE 252; EE 202
ES 261	Fundamentals of Deformable Bodies	2	0	2	ES 255
Sub- Total		21	3	24	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
CpE 371	Microprocessor Systems	3	1	4	ECE 371
EE 304	Electrical Apparatus and Devices	2	1	3	EE 202
EE 303	Electrical Machines 2	3	1	4	EE 302
ES 301	Basic Occupational Safety and Health	3	0	3	3 <sup>rd</sup> year standing
ES 138	Technopreneurship	3	0	3	4 <sup>th</sup> year standing
EE 305	EE Law, Codes, and Professional Ethics	2	0	2	GE Eth
ECE 357	Feedback and Control Systems	3	0	3	Math 161; ECE 201
GE ConWorld	Contemporary World	3	0	3	None
Sub- Total		22	3	25	

Summer					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Practicum	On-the-Job Training	3	240	2	4th Year Standing
Sub- Total		3	240	2	

  

Fourth Year					
First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
ES 142	Materials Science and Engineering	3	0	3	CHEM 121; ES 261
EE 401	Electrical Standards and Practices	0	1	1	EE 305
EE 402	Electrical Systems and Illumination Engineering Design	3	2	5	EE 303
EE 481	Power Systems - Generation and Transmission	3	0	3	4 <sup>th</sup> year standing
EE 164	Management of Engineering Projects	2	0	2	ES 137
ES 140	Research Methods	0	1	1	Math 114; GE PurCom
EE 403	Instrumentation and Control	2	1	3	ECE 357
IC 105	EE REVIEW 1	2	0	2	4 <sup>th</sup> year standing
Sub- Total		15	5	20	

  

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 431	Power Systems Analysis	3	1	4	EE 401
EE 432	Fundamentals of Power Plant Engineering Design	0	1	1	Co-requisite: EE 431
EE 433	Distribution Systems and Substation Design	2	1	3	Co-requisite: EE 431
EE 482	Power Systems - Distribution System and Supply	3	0	3	EE 481
EE 422	Research Project or Capstone Design Project for EE	0	1	1	ES 142
ES 484	Seminars/Colloquia & Field Trips	0	1	1	4 <sup>th</sup> year standing
IC 106	EE REVIEW 2	2	0	2	4 <sup>th</sup> year standing
GE Hist	Readings in Philippine History	3	0	3	NONE
Sub- Total		13	5	18	
Grand Total		165	254	188	

SUMMARY	Units
<b>I. Technical Courses</b>	
A. Mathematics	16
B. Natural/Physical Sciences	8
C. Basic Engineering Sciences	11
D. Allied Courses	39
E. Professional Courses	52
F. Electives	6
Sub-Total	132
<b>II. Non-Technical Courses</b>	
A. GE Core Courses	24
B. Electives	9
C. Mandated Courses	3
D. Physical Education	8
E. NSTP	6
Sub-Total	50
<b>III. Institutional Courses</b>	
A. Introduction to Electrical Engineering	2
B. EE Review 1	2
C. EE Review 2	2
Sub-Total	6
Grand Total	188

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