

ELECTRIC AND ELECTRONIC ENGINEERING

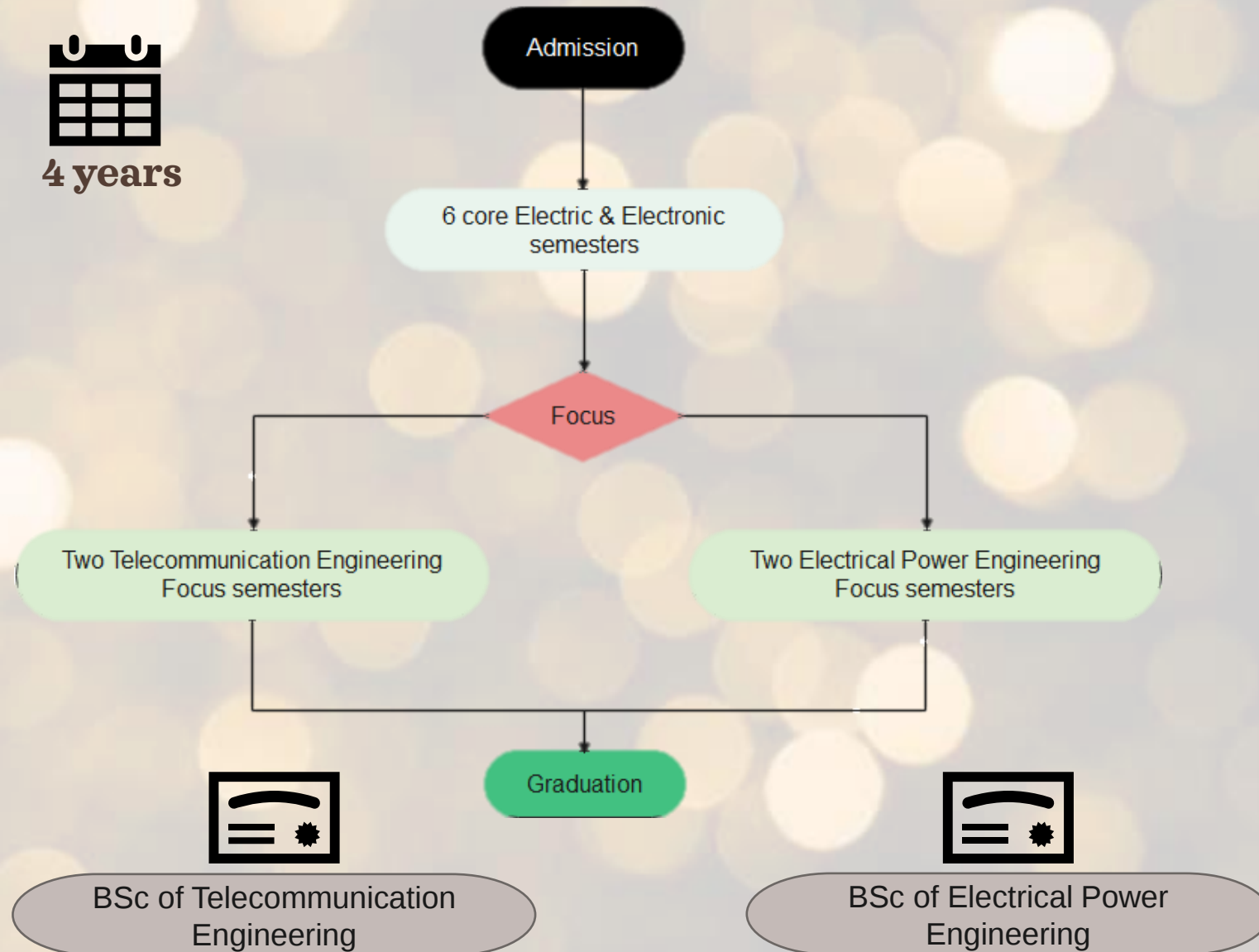
WHERE YOUR DREAMS TURN INTO REALITY

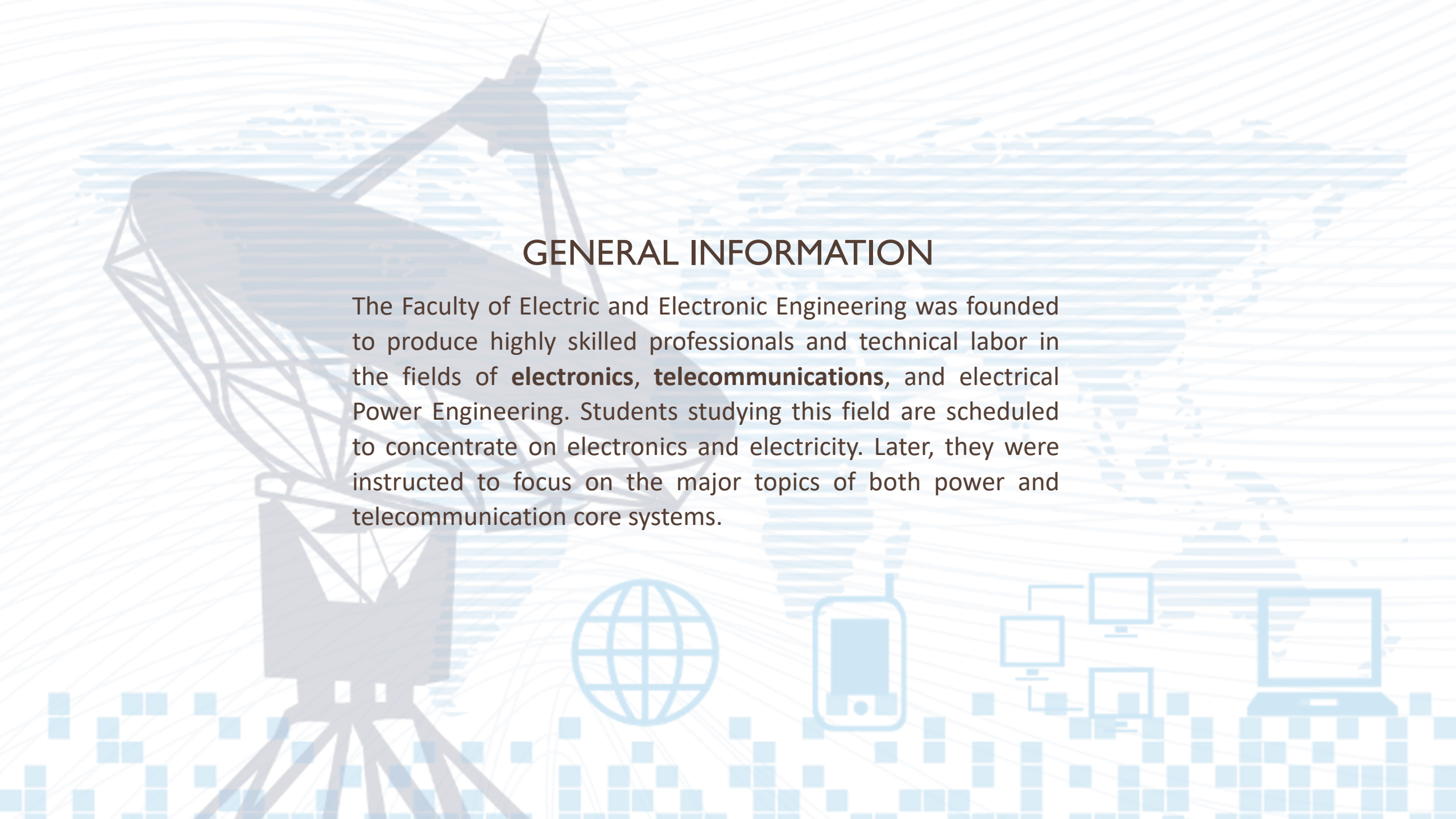


PROGRAM DESCRIPTION



4 years

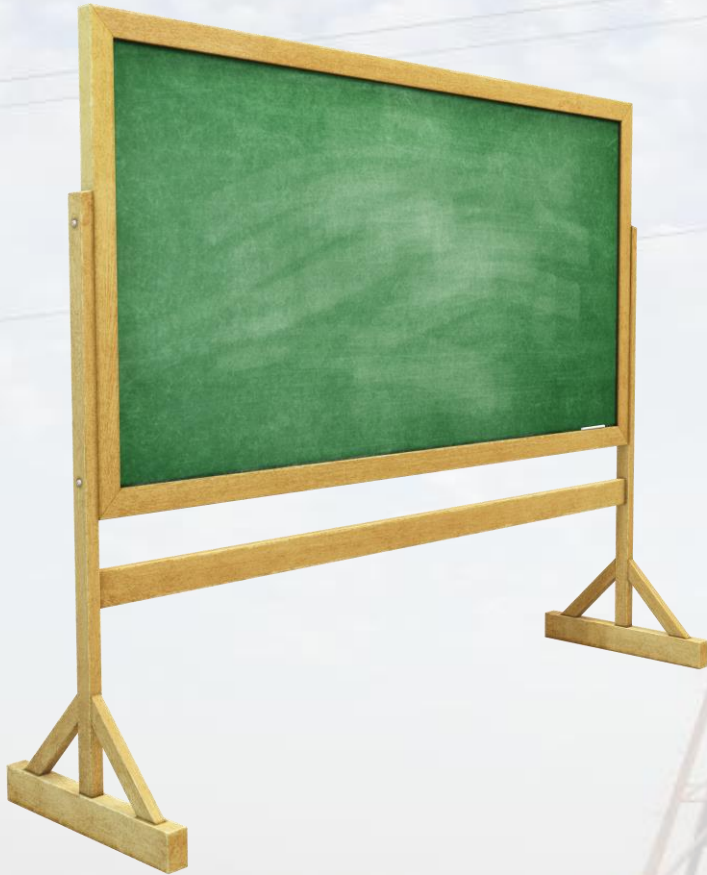




GENERAL INFORMATION

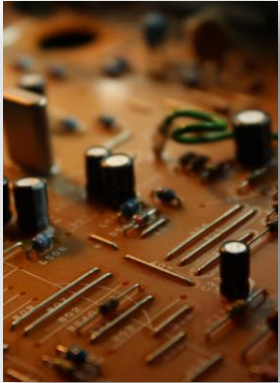
The Faculty of Electric and Electronic Engineering was founded to produce highly skilled professionals and technical labor in the fields of **electronics**, **telecommunications**, and electrical Power Engineering. Students studying this field are scheduled to concentrate on electronics and electricity. Later, they were instructed to focus on the major topics of both power and telecommunication core systems.

In General, electrical and electronics engineers **create** and **construct tools, interfaces** networks, and systems for identifying **sound, images,** and other comparable data that can be **recorded, processed, shared, and analyzed.**

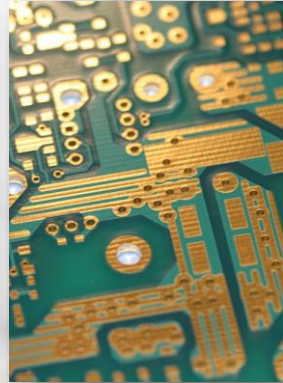


- In our department, **English is the primary language of instruction.** Following the four English modules in the first two years, the students begin their studies in the department with academicians who are experts in their fields. Our department currently offers only an **undergraduate curriculum,** but we intend to **expand it to higher levels** in the future.

Primary research Areas



ELECTRONICS



CIRCUITS



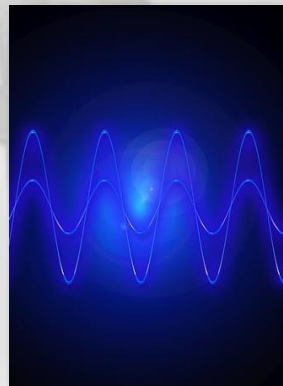
OPTICS



COMMUNICATION SYSTEMS



INFORMATION PROCESSING



RADIO FREQUENCY



ELECTRICAL POWER



MEDIA TECHNOLOGY

Prospective careers and areas of focus

- Obtaining a degree of EEE can lead to numerous job opportunities.
- Our graduates at IBU have gone on to work in positions such as:
 - Electrical Engineer
 - Communication Engineer
 - Electronics Engineer
 - Sound Engineer
 - IT consultant
 - Network Engineer
 - Systems Analyst
 - Technical Author
 - Test Engineer
 - Teaching career
 - Control and Instrumentation Engineer
 - CAD technician
 - Project Engineer

Academic Curriculum

I. Year / I. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
ENG101	Basic Grammar & Vocabulary Skills	3	-	-
MATH101	Pre-Calculus	3	-	-
CS102	Programming I	2	-	-
CS101	CompTIA IT Fundamentals	3	-	-
EE101	Introduction to Electric and Electronic Engineering	2	-	-
TOTAL		13		

I. Year / II. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
ENG102	Academic Writing Skills	3	ENG101	-
MATH102	Calculus I	2	MATH101	-
EE102	Circuit Analysis I	3	EEE101	-
CS104	Networking Fundamentals	3	-	-
CS105	Programming II	3	CS102	-
CS106	Programming Lab	2		CS102
TOTAL		16		
YEAR TOTAL		29		

Academic Curriculum

II. Year / I. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
ENG201	Communication Skills	3	ENG102	-
MATH201	Calculus II	2	MATH102	-
EE203	Digital Logic Design	2		-
EE201	Circuit Analysis II	3	EE102	-
EE202	Electrical Workshop	1	-	-
EE204	Electromagnetism	3	-	-
HS00	Occupational Health and Safety	2	-	-
TOTAL		16		

II. Year / II. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
ENG202	Academic Reading Skills	3	ENG201	-
EE205	Signal and Systems	3	MATH201	-
MATH202	Calculus III	2	MATH201	-
EE206	Introduction to Microprocessors	3	-	-
EE207	Electromagnetic Fields	3	EE204	-
CS201	Introduction to Linux	2	CS101	-
EE208	Introduction to Telecommunications	3	-	-
TOTAL		19		
YEAR TOTAL		35		
CUMULATIVE TOTAL		64		

Academic Curriculum

III. Year / I. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE301	Introduction to Electronics	3	EE201	-
EE302	Digital Signal Processing	3	EE205	-
CS302	Database Management	1	-	-
EE303	Electrical Machines	1	-	-
CS301	Fundamentals of Cybersecurity	1	CS201	-
EE304	Communication Systems	3	-	-
EE305	Engineering Economics and management	3	-	-
TOTAL		15		

III. Year / II. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE306	Control Systems	3	EE205	-
EE307	Electromagnetic Waves and Propagation	3	EE207	-
EE308	Data communication	3	-	-
EE309	Wireless Communication Systems	3	-	-
EE310	Probability and Statistics	3	MATH202	-
EE312	Academic Research Methodology	2	-	-
EE311	Engineering Ethics	2	-	-
TOTAL		19		
YEAR TOTAL		34		
CUMULATIVE TOTAL		98		

Academic Curriculum

IV. Year / I. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE401	Antenna and propagation theory	3	EE307	-
EE402	Microwave system	3	EE307	-
EE403	Mobile Communication	3	-	-
EE404	Graduate project I	6	-	-
EE407	Big Data	2	-	-
	Elective Courses	2	-	-
	TOTAL	19		

IV. Year / II. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE407	Satellite Communication	3	-	-
EE406	Fiber optics	3	-	-
EE405	Graduation Project II	6	EE404	-
	Elective courses	2	-	-
	TOTAL	14		
	YEAR TOTAL	33		
	CUMULATIVE TOTAL	131		

CORE
TELECOMMUNICATION
ENGINEERING
SEMESTERS

Academic Curriculum

IV. Year / I. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE420	Graduate project I	6	-	-
EE422	Electrical power system	3	-	-
EE423	Power electronics	3	-	-
EE424	Distribution system	3	-	-
	Elective courses	2	-	-
	TOTAL	17		

IV. Year / II. Semester

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE421	Graduate project II	6	EE425	-
EE425	Digital Control System	3	-	-
EE426	Computer Application in power system	3	-	-
	Elective Course	3	-	-
	TOTAL	15		
	YEAR TOTAL	32		
	CUMULATIVE TOTAL	130		

CORE
ELECTRICAL POWER
ENGINEERING
SEMESTERS

Academic Curriculum

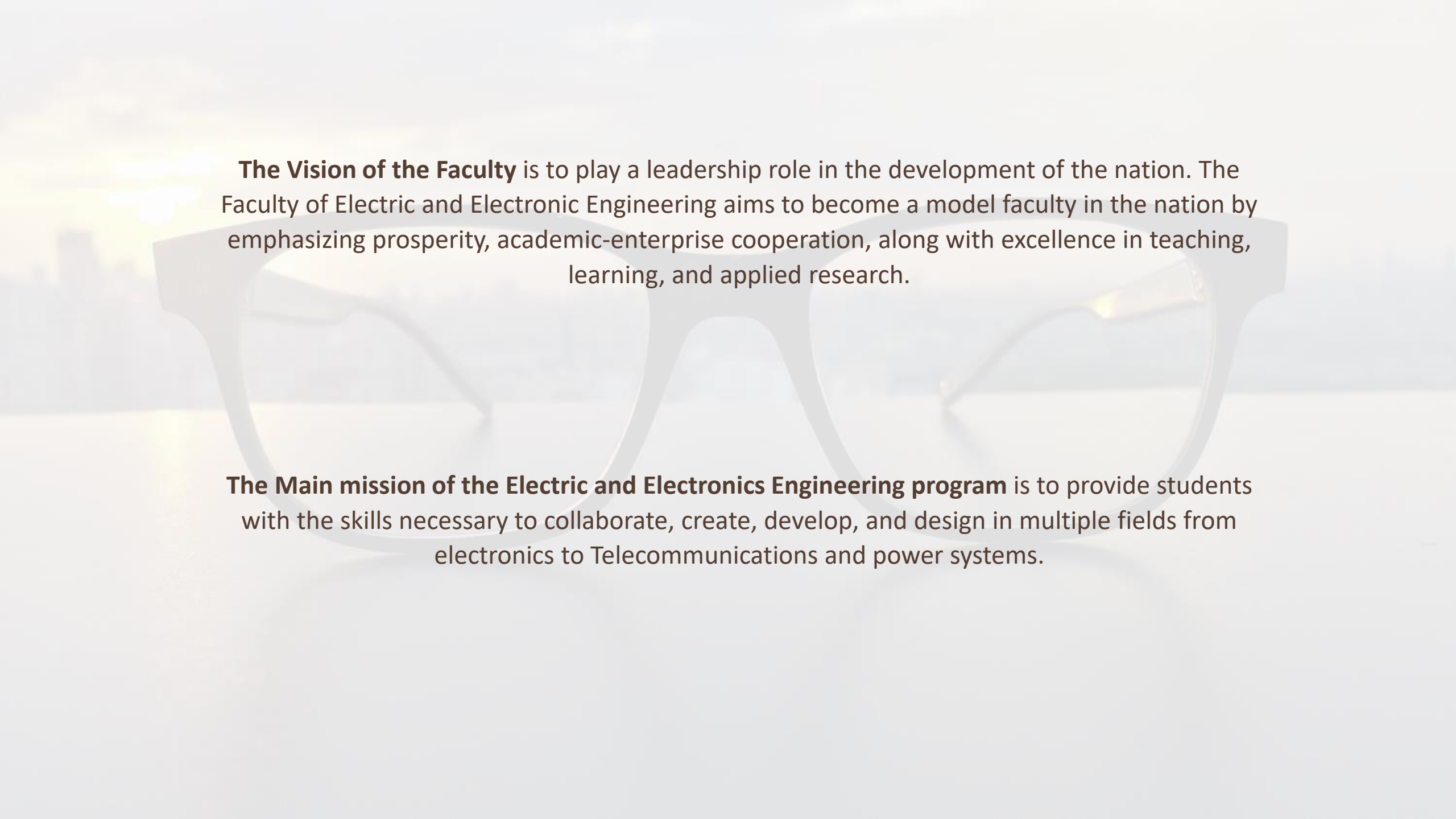
Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE413	Semiconductor Physics	1	-	-
EE414	Optoelectronics	1	-	-
EE415	Coding Theory	1	-	-
EE409	Digital Broadcasting and Transmission	1	-	-
CS450	Artificial Intelligence	1	-	-
CS451	Neural Networks	1	-	-
EE410	Telecommunication Electronics	1	-	-
EE411	Broadband Digital Communications	1	-	-
EE412	Introduction to Optical Amplifiers	1	-	-

ELECTIVE COURSES FOR TELECOMMUNICATION ENGINEERING

Academic Curriculum

Course Code	Course Name	Credit hours	Prerequisite	Special Prerequisite
EE425	Electromechanical Energy Conversion	1	-	-
EE426	Nonlinear System Analysis	1	-	-
EE427	Nonlinear Control Systems	1	-	-
EE428	Power Electronics II	1	-	-
EE429	High Voltage Techniques	1	-	-
EE430	Microcontrollers and Industrial Applications	1	-	-

ELECTIVE COURSE FOR
ELECTRICAL POWER
ENGINEERING

A pair of glasses with a city skyline in the background. The glasses are a light gray color and are positioned in the center of the image. The background is a blurred city skyline with a bright light source, possibly the sun, on the left side, creating a lens flare effect. The text is overlaid on the glasses.

The Vision of the Faculty is to play a leadership role in the development of the nation. The Faculty of Electric and Electronic Engineering aims to become a model faculty in the nation by emphasizing prosperity, academic-enterprise cooperation, along with excellence in teaching, learning, and applied research.

The Main mission of the Electric and Electronics Engineering program is to provide students with the skills necessary to collaborate, create, develop, and design in multiple fields from electronics to Telecommunications and power systems.

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