



SAINT LOUIS  
UNIVERSITY  
BAGUIO CITY, PHILIPPINES

## **ELECTRICAL ENGINEERING** PROGRAM CATALOG



**SCHOOL OF  
ENGINEERING  
AND ARCHITECTURE**





### SLU VISION-MISSION

We envision Saint Louis University as an excellent missionary and transformative educational institution zealous in developing locally responsive, globally competitive, and empowered human resources who are creative, competent, socially involved, and imbued with Christian spirit.

### SCHOOL VISION-MISSION

The School of Engineering and Architecture (SEA) envisions herself as an exemplary educational institution for engineering and architecture dedicated to elevating instruction, research, and extension to a higher level of competence and creativity committed to shaping the socio-technical environment founded on Christian values.

### PROGRAM EDUCATIONAL OBJECTIVES (PEO)

Three to five years after graduation, alumni of the Architecture and Engineering Programs are expected to:

- 1.demonstrate technical competence in the analysis of problems and design of systems, keeping in mind the technical, professional, societal, environmental, economic, and ethical dimensions of any solution;
- 2.apply their talents and full potentials in the practice of their profession guided by the Christian tenets of
- 3.honesty, service, dedication and a deep sense of moral responsibility;
- 4.pursue advanced education, research and development, and other creative efforts in science and technology; and;
- 5.participate actively to address social, technical and business challenges vital to national progress and development.





## **PROGRAM LEARNING OUTCOMES (PLO)**

Graduates of the BS in Electrical Engineering program are expected to:

1. apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems;
2. conduct investigations of complex engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;
3. design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations;
4. function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings;
5. compose substantiated conclusions after the analysis of complex engineering problems using first principles of mathematics, natural sciences, and engineering sciences to identify, formulate, and research relevant literature;
6. apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice;
7. communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions;
8. evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental context;
9. demonstrate the ability to engage in independent and life-long learning in the broadest context of technological change;
10. apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems;
11. apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering problems with an understanding of the limitations;
12. apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments; and
13. practice Christian values in their personal and professional endeavors as Louisians in the service of the CICM mission.





## CURRICULUM

FIRST YEAR	1st Semester				2nd Semester			
	Course No.	Course Descriptive Title	Units	Pre-requisite	Course No.	Course Descriptive Title	Units	Pre-requisite
	EnggChem	Chemistry for Engineers (LEC)	3		EnggMath 2	Differential Calculus	4	EnggMath 1
	EnggChem L	Chemistry for Engineers (LAB)	1	with/after EnggChem	CompProg	Computer Fundamentals and Programming	2	
	EnggMath 1	Pre-Calculus	4		GETHICS	Ethics	3	
	GMATH	Mathematics in the Modern World	3		CFE 102	Christian Morality in Our Times	3	
	CFE 101	God's Journey with His People	3		GIT	Living in the IT Era	3	
	GRVA	Reading Visual Arts	3		FIT CS	Physical Activity Towards Health and Fitness (Combative Sports)	2	
	FIT HW	Physical Activity Towards Health and Fitness (Health and Wellness)	2		NSTP-CWTS 2	Social Awareness and Empowerment for Service	3	NSTP-CWTS 1
	EnggCAD	Computer-Aided Drafting (LAB)	1		GART	Art Appreciation	3	
SECOND YEAR	NSTP-CTWS 1	Foundations of Service	3			<b>TOTAL UNITS</b>	<b>23</b>	
		<b>TOTAL UNITS</b>	<b>23</b>					
	Short Term							
	Course No.	Course Descriptive Title	Units	Pre-requisite				
	EnggMath 4	Integral Calculus	4	EnggMath 2				
	EnggPhys	Physics for Engineers (LEC)	3	EnggMath 2				
	EnggPhysL	Physics for Engineers (LAB)	1	with/ after EnggPhys				
		<b>TOTAL UNITS</b>	<b>8</b>					
	1st Semester				2nd Semester			
	Course No.	Course Descriptive Title	Units	Pre-requisite	Course No.	Course Descriptive Title	Units	Pre-requisite
SECOND YEAR	EE 2111	Electrical Circuits 1 (LEC)	3	EnggPhys (Lec & Lab), EnggMath 4	EE 2211	Electrical Circuits 2	5	EE 2111 (Lec & Lab)
	EE 2111L	Electrical Circuits 1 (LAB)	1	with/after EE 2111	EE 2211L	Electrical Circuits 2 Laboratory	1	with/after EE 2211
	EE 2121	Engineering Mechanics	3	EnggPhys (Lec & Lab)	EE 2221	Electronic Circuits: Devices and Analysis	3	EE 2111 (Lec & Lab)
	EE 2131	Basic Thermodynamics	3	EnggPhys (Lec & Lab)	EE 2221L	Electronic Circuits: Devices and Analysis Laboratory	1	with/after EE 2221
	EnggMath 3	Engineering Data Analysis	3	EnggMath 2	EE 2231	Vectors and Electromagnetics	4	EnggPhys(Lec & Lab), EnggMath 5
	EnggMath 5	Differential Equations	3	EnggMath 4	EE 2241	Fundamentals of Deformable Bodies	3	EE 2121
	CFE 103	Catholic Foundation of Mission	3		CFE 104	CICM Missionary Identity	3	CFE 103
	GHIST	Readings in Philippine History	3		GCWORLD	The Contemporary World	3	
	GSELF	Understanding the Self	3		GPCOM	Purposive Communication	3	
	FIT AQ	Physical Activity Towards Health and Fitness (Aquatics)	2		FIT OA	Physical Activity Towards Health and Fitness (Outdoor and Adventure Activities)	2	
		<b>TOTAL UNITS</b>	<b>27</b>			<b>TOTAL UNITS</b>	<b>28</b>	





## CURRICULUM

THIRD YEAR	<b>1st Semester</b>				<b>2nd Semester</b>			
	Course No.	Course Descriptive Title	Units	Pre-requisite	Course No.	Course Descriptive Title	Units	Pre-requisite
	EE 3111	Electrical Machines 1 (LEC)	3	EE 2211 (Lec & Lab), EE 2131	EE 3211	Electrical Machines 2 (LEC)	3	EE 3111 (Lec & Lab)
	EE 3111L	Electrical Machines 1 (LAB)	1	with/after EE 3111	EE 3211L	Electrical Machines 2 (LAB)	1	with/after EE 3211
	EE 3121	Advanced Engineering Math for EE	5	EnggMath 5	EE 3221	Feedback Control Systems (LEC)	3	EE 3121, EE 2221
	EE 3131	Logic Circuits and Switching Theory (Lec)	3	EE 2221 (Lec & Lab)	EE 3231	Electrical Apparatus and Devices (LEC)	3	EE 2211 (Lec & Lab)
	EE 3141	Material Science and Engineering	2	EnggChem, EE 2241	EE 3231L	Electrical Apparatus and Devices (LAB)	1	with/after EE 3231
	EE 3151	EE Laws, Codes, and Professional Ethics	3	GETHICS, EE 2211	EE 3241	Numerical Methods and Analysis (Lec)	3	EE 3121, ComProg
	EE 3161	Fluid Mechanics	2	EE 2121	EE 3241L	Numerical Methods and Analysis (Lab)	1	with/after EE 3241
	EE 3171	Engineering Economics	3	EnggMath 3	EE 3251	Basic Occupational Safety and Health	3	with/after EE 3211
	CFE 105A	CICM in Action: Justice, Peace, and Integrity of Creation, Indigenous Peoples, and Interreligious Dialogue	1.5	CFE 103, CFE 104	EE 3261L	Electrical Standards and Practices (LAB)	1	EE 3151
	GENTREP	The Entrepreneurial Mind	3	GPCOM	CFE 105B	CICM in Action: Environmental Planning and Management and Disaster Risk Reduction Management	1.5	CFE 105A
	GRIZAL	The Life and Works of Rizal	3		Techno 101	Technopreneurship 101	2	GENTREP
		<b>TOTAL UNITS</b>	<b>29.5</b>		Techno 101L	Technopreneurship 101 (LAB)	1	with/after Techno 101
					GSTS	Science, Technology, and Society	3	
						<b>TOTAL UNITS</b>	<b>26.5</b>	
	<b>Short Term</b>							
	Course No.	Course Descriptive Title	Units	Pre-requisite				
	EE 3271	On-the-Job Training for EE (240 Hours)	2	EE 3231, EE 3251				
		<b>TOTAL UNITS</b>	<b>2</b>					





## CURRICULUM

FOURTH YEAR	1st Semester				2nd Semester			
	Course No.	Course Descriptive Title	Units	Pre-requisite	Course No.	Course Descriptive Title	Units	Pre-requisite
	EE 4111	Electrical Systems and Illumination Engineering Design (LEC)	4	EE 3211 (Lec & Lab)	EE 4211	Power System Analysis (LEC)	4	EE 4111 (Lec & Lab)
	EE 4111D	Electrical Systems and Illumination Engineering Design (DESIGN)	2	with/after EE 4111	EE 4211L	Power System Analysis (LAB)	1	with/after EE 4211
	EE 4121	Instrumentation and Control (LEC)	3	EE 3221 (Lec & Lab)	EE 4221	Microprocessor Systems (LEC)	2	EE 3131
	EE 4121L	Instrumentation and Control (LAB)	1	with/after EE 4121	EE 4221L	Microprocessor Systems (LAB)	1	with/after EE 4221
	EE 4131	Fundamentals of Electronics Communications (LEC)	3	EE 2221 (Lec & Lab)	EE 4231	Elective 2: Power System Protection 2	3	EE 4151
	EE 4141	Industrial Electronics (LEC)	3	EE 2221 (Lec & Lab)	EE 4241L	EE Computer Application	2	EE 3241 (Lec & Lab), EE 4111 (Lec & Lab)
	EE 4141L	Industrial Electronics (LEC)	1	with/after EE 4141	EE 4251	Distribution Systems and Substation Design	3	EE 4111 (Lec & Lab)
	EE 4151	Elective 1: Power System Protection 1	3	EE 3271	EE 4251D	Distribution Systems and Substation Design	1	with/after EE 4251
	EE 4161	Research Methods	1	EnggMath 3, with/after EE 4111	EE 4261F	Research Project/Capstone Design Project	1	EE 4161
	EE 4171	Management of Engineering Projects	3	EE 3171	EE 4271F	Seminars/Colloquia (Field)	1	EE 3271
	EE 4181	Environmental Science and Engineering	3	GSTS	EE 4281F	EE Board Review (Field)	2	with/after EE 4261F
	CFE 106A	Embracing the CICM Mission	1.5	CFE 105B	EE 4291D	Fundamentals of Power Plant Engineering Design	1	w/after EE 4211(Lec & Lab)
		TOTAL UNITS	28.5		CFE 106B	Embracing the CICM Mission	1.5	CFE 106A
						TOTAL UNITS	23.5	
	TOTAL PROGRAM UNITS	219						

- NOTES: 1. The maximum load a graduating student is allowed to enroll is regular load plus 6 units (Regular Semester); regular load plus 3 units (Short term).  
 2. The year level is based on the 70% of the subjects in the current term.  
 3. Regular students are those with no advanced and back subjects on the checklist.  
 4. Required Units: 219 units.



**ADMISSION POLICIES**

Saint Louis University welcomes local and foreign students alike, subject to University admission Policies, requirements, and academic standards and pertinent laws of the Republic of the Philippines

**Undergraduate Freshman Students**

- All undergraduate freshman applicants must pass the SLU College Entrance Examination (SLU-CEE) and must qualify within the slots duly determined for their chosen course. The regular SLU-CEE is conducted during weekends from the middle of October up to the middle of December. Admission for the first semester starts at the middle of April.

**Transfer Students**

- SLU admits transferees in all courses except Bachelor in Medical Laboratory Science subject to their compliance with pertinent requirements and guidelines. They must undergo a Qualifying Examination (QE) and if qualified, will take the Personality Test and Interview. Foreign students applying as transferee are subject to the English Proficiency Test (EPT) rule.

**Graduate Program Students**

- The applicant must have finished the prerequisite degree/s prior to acceptance to the Graduate Program;
- For a Master's degree, the applicant must have a Baccalaureate degree from an institution of recognized standing
- For a Doctorate degree, the applicant must have a Master's degree in related fields from an institution of recognized standing.

**Foreign Students**

- Foreign students should apply not later than 6 months before the start of the academic term. Moreover, they should be in Baguio City at least 4 weeks before the start of classes of the academic term for them to take the EPT as well as SLU-CEE / QE / GPPE, and Personality Test.
- Foreign students applying for the first time either in the undergraduate or graduate program should initially possess satisfactory proficiency in English and have passed the EPT as well as the pertinent entrance examination and Personality Test. Before enrolling, they undergo Preadmission Processing at the Student Affairs Office.
- Foreign students must secure a valid Student Visa. There are two options in securing a Student Visa. For related information, consult Foreign Student section of the Registrar's Office.

**SCHEDULE OF FEES**

FIRST YEAR TUITION FEE AS OF AY 2022 - 2023		
COURSE	PARTIAL	FULL
BS ELECTRICAL Engg	P 11,900.00	P 28,334.00
FEES LISTED PER SEMESTER AND ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE		





## JOB OPPORTUNITIES AND FUTURE PROSPECTS

- Controls Engineer
- Electrical Engineer
- Project Engineer
- Test Engineer
- Design Engineer
- Manufacturing Engineer
- Instrumentation Engineer
- Avionics Engineer
- Electrical Engineering Manager
- Power Generation, Transmission, and Distribution

## CONTACT INFORMATION

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