SAINT LOUIS UNIVERSITY
BAGUIO CITY, PHILIPPINES

ELECTRONICS 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 Electronics 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. create 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 to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments;
13. use concepts from an engineering specialization in solving complex Electronics Engineering problems; and
14. practice Christian values in their personal and professional endeavors as Louisians in the service of the CICM mission.

CURRICULUM

FIRST YEAR

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
1st Semester			
ComProg-ECE	Computer Programming for ECE (LAB)	2	
EnggChem	Chemistry for Engineers (LEC)	3	
EnggChemL	Chemistry for Engineers (LAB)	1	with/after EnggChem
EnggMath 1	Pre-Calculus	4	
GMATH	Mathematics in the Modern World	3	
NSTP-CWTS 1	Foundations of Service	3	
CFE 101	God's Journey with His People	3	
FIT HW	Physical Activity Towards Health and Fitness (Health and Wellness)	2	
GRVA	Reading Visual Art	3	
	TOTAL UNITS	**24**	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
2nd Semester			
ECE 1211	Material Science and Engineering	3	EnggChem (Lec & Lab)
EnggCAD	Computer-Aided Drafting	1	ComProg
EnggMath 2	Differential Calculus	4	EnggMath 1
EnggMath 3	Engineering Data Analysis	3	GMATH
GART	Art Appreciation	3	
GETHICS	Ethics	3	
CFE 102	Christian Morality in Our Times	3	
FIT CS	Physical Activity Towards Health and Fitness (Combative Sports)	2	
GIT	Living in the IT Era	3	
	TOTAL UNITS	**25**	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
Short Term			
EnggMath 4	Integral Calculus	4	with/after EnggPhys (Lec&Lab)
ECE 1212	Physics 2(LEC)	3	with/after EnggPhys
ECE 1212L	Physics 2(LAB)	1	with/after ECE 1212
EnggPhys	Physics for Engineers (LEC)	3	w/after EnggMath 4
EnggPhysL	Physics for Engineers (LAB)	1	w/ after EnggPhys
	TOTAL UNITS	**12**	

SECOND YEAR

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
1st Semester			
ECE 2111	Circuits 1 (LEC)	3	ECE 1212 (Lec & Lab)
ECE 2111L	Circuits 1 (LAB)	1	with/after ECE 2111
ECE 2121	Electronics 1: Electronic Devices and Circuits (LEC)	3	with/after ECE 2111(Lec & Lab)
ECE 2121L	Electronics 1: Electronic Devices and Circuits (LAB)	1	with/after ECE 2121
GENTREP	The Entrepreneurial Mind	3	
GHIST	Readings in Philippine History	3	
NSTP-CWTS 2	Social Awareness and Empowerment for Service	3	NSTP-CWTS 1
CFE 103	Catholic Foundation of Mission	3	
FIT AQ	Physical Activity Towards Health and Fitness (Aquatics)	2	
GSELF	Understanding the Self	3	
	TOTAL UNITS	**25**	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
2nd Semester			
ECE 2211	Circuits 2 (LEC)	3	ECE 2111 (Lec & Lab)
ECE 2211L	Circuits 2 (LAB)	1	with/after ECE 2211
ECE 2221	Electronics 2: Electronic Circuit Analysis and Design (LEC)	3	ECE 2121 (Lec & Lab)
ECE 2221L	Electronics 2: Electronic Circuit Analysis and Design (LAB)	1	with/after ECE 2221
ECE 2231	Communications 1: Principles of Communication Systems (LEC)	3	with/after ECE 2221(Lec & Lab)
ECE 2231L	Communications 1: Principles of Communication Systems (LAB)	1	with/after ECE 2231
ECE 2241	Discrete Mathematics	3	EnggMath 4
EnggMath 5	Differential Equations	3	EnggMath 4
GPCOM	Purposive Communication	3	
CFE 104	CICM Missionary Identity	3	CFE 103
FIT OA	Physical Activity Towards Health and Fitness (Outdoor and Adventure Activities)	2	
GCWORLD	The Contemporary World	3	
	TOTAL UNITS	**29**	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
Short Term			
ECE 2251	Advanced Engineering Mathematics(LEC)	3	Engg Math 5
ECE 2251L	Advanced Engineering Mathematics(LAB)	1	with/after ECE 2251
ECE 2261	Electromagnetics	4	EnggMath 5
	TOTAL UNITS	**8**	

CURRICULUM

THIRD YEAR

Course No.	Course Descriptive Title	Units	Co/Pre-requisite	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
1st Semester				*2nd Semester*			
ECE 3111	Digital Electroincs 1: Logic Circuits and Switching Theory (LEC)	3	ECE 2121 (Lec & Lab)	ECE 3211	Digital Electronics 2: Microprocessor and Microcontroller Systems (LEC)	3	ECE 3111 (Lec & Lab)
ECE 3111L	Digital Electronics 1: Logic Circuits and Switching Theory (LAB)	1	with/after ECE 3111	ECE 3211L	Digital Electronics 2: Microprocessor and Microcontroller Systems (LAB)	1	with/after ECE 3211
ECE 3121	Electronics 3: Electronic Systems and Design (LEC)	3	ECE 2221 (Lec & Lab)	ECE 3221	Communications 4: Transmission Media and Antenna System (LEC)	3	ECE 3131 (Lec & Lab)
ECE 3121L	Electronics 3: Electronic Systems and Design (LAB)	1	with/after ECE 3121	ECE 3221L	Communications 4: Transmission Media and Antenna System (LAB)	1	with/after ECE 3221
ECE 3131	Communications 2: Modulation and Coding Techniques (LEC)	3	ECE 2231 (Lec & Lab)	ECE 3231	Communications 3: Data Communications (LEC)	3	ECE 3131 (Lec & Lab)
ECE 3131L	Communications 2: Modulation and Coding Techniques (LAB)	1	with/after ECE 3131	ECE 3231L	Communications 3: Data Communications (LAB)	1	with/after ECE 3231
ECE 3141	Signal, Spectra, and Signal Processing (LEC)	3	ECE 2251	ECE 3241	Feedback and Control Systerms (LEC)	3	ECE 2251 (Lec & Lab)
ECE 3141L	Signal, Spectra, and Signal Processing (LAB)	1	w/after ece 3141	ECE 3241L	Feedback and Control Systerms (LAB)	1	with/after ECE 3241
ECE 3151	Engineering Economics	3	EnggMath 3	ECE 3251	Methods of Research	3	Techno 101
Techno 101	Technopreneurship (LEC)	2	GENTREP	ECE 3261	ECE Laws, Contracts, Ethics, Standards, and Safety	3	with/after 3231
Techno 101	Technopreneurship (LAB)	1	with/after Techno 101	CFE 105B	CICM in Action: Environmental Planning and Management; and Disaster Risk Reduction Management	1.5	CFE 105A
CFE 105A	CICM in Action: Justice, Peace, and Integrity of Creation; Indigenous Peoples; and Interreligious Dialogue	1.5	CFE 103,CFE 104	GSTS	Science, Technology, and Society	3	
GRIZAL	The Life and Works of Rizal	3			**TOTAL UNITS**	**26.5**	
	TOTAL UNITS	**26.5**					

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
Short Term			
ECE 3271	Electronics Engineering Immersion/On-the-Job Training (240 Hours)	3	ECE 3121 (Lec & Lab), ECE 3151, ECE 3211 (Lec & Lab),ECE 3221 (Lec & Lab)
	TOTAL UNITS	**3**	

FOURTH YEAR

Course No.	Course Descriptive Title	Units	Co/Pre-requisite	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
1st Semester				*2nd Semester*			
ECE 4111D	Design 1/ Capstone Project 1 (Design)	1	ECE 3261	ECE 4211D	Design 2/ Capstone Project 2 (Design)	1	ECE 4111D
ECE 4121F	ECE Board Review 1 (Field)	1	with/after ECE 4111D	ECE 4221F	ECE Board Review 2 (Field)	1	ECE 4121F
ECE 4131	Environmental Science and Engineering	3	GSTS	ECE 4231F	Seminars/ Colloquium (Field)	1	w/after 4221F
ECE 4141	Broadcast Production Engineering (LEC)	3	ECE 3221 (Lec & Lab)	ECE 4241	Electronics Ancillary System (LEC)	3	ECE 3121 (Lec & Lab)
ECE 4141L	Broadcast Production Engineering (LAB)	1	with/after ECE 4141	ECE 4241L	Electronics Ancillary System (LAB)	1	with/after ECE 4241
ECE 4151	Advanced Instrumentation and Control (LEC)	3	ECE 3241(Lec & Lab)	ECE 4251	Robotics Technology (LEC)	3	ECE 3121 (Lec & Lab)
ECE 4151L	Advanced Instrumentation and Control (LAB)	1	with/after ECE 4151	ECE 4251L	Robotics Technology (LAB)	1	with/after ECE 4251
ECE 4161	Analog Integrated Circuit Design (LEC)	3	ECE 3121 (Lec & Lab)	ECE 4261	Digital Integrated Circuits Design (LEC)	3	ECE 3121 (Lec & Lab)
ECE 4161L	Analog Integrated Circuit Design (LAB)	1	with/after ECE 4161	ECE 4261L	Digital Integrated Circuits Design (LAB)	1	with/after ECE 4261
ECE 4171	Engineering Management	3	ECE 3151	CFE 106B	Embracing the CICM Mission	1.5	CFE 106A
CFE 106A	Embracing the CICM Mission	1.5	CFE 105B		**TOTAL UNITS**	**16.5**	
	TOTAL UNITS	**21.5**					
	TOTAL PROGRAM UNITS				**217**		

NOTE
1. The maximum load a graduating student is allowed to enroll is the regular load plus 6 units during the regular semester, and regular load plus 3 units during the short term
2. The year level assigned to a student is based on his/her completion of at least of 70% of the technical subjects in the highest possible year level in this checklist
3. Regular students are those with no advanced and back subjects based on the checklist
4. Required units: 217

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 / GPEE, 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 ELECTRONICS Engg	P 14,400.00	P 31,601.00
FEES LISTED PER SEMESTER AND ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE		

JOB OPPORTUNITIES AND FUTURE PROSPECTS

- Acoustic Consultant
- Aerospace Engineer
- Automotive Engineer
- Broadcast Engineer
- Biomedical Engineer
- CAD Technician
- Design Engineer
- Electronic Communications Engineer
- Electronics Design Engineer
- Instrumentations and Control Engineer
- IT Engineer
- Logistics Engineer
- Manufacturing Engineer
- Network Engineer
- Process Engineer
- Product Engineer
- Project Manager
- Research and Development
- Robotics Engineer
- Software Engineer
- Sound Engineer
- Special Effects Technician
- Systems Engineer
- Technical Sales Engineer
- Telecommunications Engineer
- Test Technician
- Transport Engineer
- Materials Engineer

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