



SAINT LOUIS  
UNIVERSITY  
BAGUIO CITY, PHILIPPINES

## **CIVIL 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 Civil 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. demonstrate competence in at least one specialized field of Civil Engineering Practice; 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
	<b>1st Semester</b>			
	CFE 101	God's Journey with His People	3	
	GRVA	Reading Visual Art	3	
	CEOr	Civil Engineering Orientation	2	
	GETHICS	Ethics	3	
	EnggMath 1	Pre-calculus	4	
	CE 1111	Mathematics of Engineering	3	
	ComProg	Computer Fundamentals and Programming (Lab)	2	
	CE 1121	Engg Drawings and Plans (Lab)	2	
SECOND YEAR	FIT HW	Physical Activity Towards Health and Fitness (Health and Fitness)	2	
		<b>TOTAL UNITS</b>	<b>24</b>	
	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
	<b>Short Term</b>			
	EnggMath 4	Integral Calculus	4	EnggMath 2
	EnggPhys	Physics for Engineers	3	EnggMath 2
	EnggPhysL	Physics for Engineers (Lab)	1	with/after EnggPhys
		<b>TOTAL UNITS</b>	<b>8</b>	
	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
	<b>1st Semester</b>			
	CFE 103	Catholic Foundation of Mission	3	
	GART	Art Appreciation	3	
	GHIIST	Readings in Philippine History	3	
	GSTS	Science, Technology, and Society	3	
	EnggMath 3	Engineering Data Analysis	3	EnggMath 4
	CE 2111	Statics of Rigid Bodies	5	EnggPhys
	CE 2121	Fundamentals of Surveying	3	CE 1121
	CE 2121L	Fundamentals of Surveying (Lab)	2	with/after CE 2121
	CE 2131	Geology for Civil Engineers	2	EnggChem
	FIT AQ	Physical Activity Towards Health and Fitness (Aquatics)	2	
		<b>TOTAL UNITS</b>	<b>29</b>	
	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
	<b>Short Term</b>			
	GENTREP	The Entrepreneurial Mind	3	GPCOM
	GSELF	Understanding the Self	3	
	NSTP-CWTS 2	Social Awareness and Empowerment for Service	3	NSTP-CWTS 1
		<b>TOTAL UNITS</b>	<b>9</b>	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
<b>2nd Semester</b>			
CFE 102	Christian Morality in our Times	3	
GIT	Living in the IT Era	3	
GRIZAL	The Life and Works of Rizal	3	
GMATH	Mathematics in the Modern World	3	
EnggMath 2	Differential Calculus	4	EnggMath 1
EnggChem	Chemistry for Engineers	3	
EnggChem L	Chemistry for Engineers (Lab)	1	with/after EnggChem
EnggCAD	Computer-Aided Drafting (Lab)	1	CE 1121
FIT CS	Physical Activity Towards Health and Fitness (Combative Sports)	2	
NSTP-CWTS 1	Foundations of Service	3	
	<b>TOTAL UNITS</b>	<b>26</b>	

Course No.	Course Descriptive Title	Units	Co/Pre-requisite
<b>2nd Semester</b>			
CFE 104	CICM Missionary Identity	3	CFE 103
GCWorld	The Contemporary World	3	
GPCOM	Purposive Communication	3	
EnggMath 5	Differential Equations	3	EnggMath 3
CE 2211	Mechanics of Deformable Bodies	5	CE 2111
CE 2221	Dynamics of Rigid Bodies	2	CE 2111
CE 2231	Hydraulics	4	CE 2111
CE 2231L	Hydraulics (Lab)	1	with/after CE 2231
CE 2241	Engineering Utilities 1	3	EnggPhys
CE 2241D	Engineering Utilities 1 (Lab)	1	with/after CE 2241
FIT OA	Physical Activity Towards Health and Fitness (Outdoor and Adventure Activities)	2	
	<b>TOTAL UNITS</b>	<b>30</b>	





## 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			
CFE 105A	CICM in Action : Justice, Peace and Integrity of Creation; Indigenous Peoples; and Interreligious Dialogue	1.5	CFE 103, CFE 104	CFE 105B	CICM in Action : Environmental Planning and Management, and Disaster Risk Reduction Management	1.5	CFE 105A
Techno 101	Technopreneurship 101	2	GENTREP	CE 3211	Principles of Steel Design	3	CE 3111
Techno 101L	Technopreneurship 101 (Lab)	1	with/after TECHNO 1011	CE 3211D	Principles of Steel Design (Design)	1	with/after CE 3211
CE 3111	Structural Theory	4	CE 2211	CE 3221	Principles of Reinforced/Prestressed Concrete	4	CE 3111
CE 3111D	Structural Theory (Design)	1	with/after CE 3111	CE 3221D	Principles of Reinforced/Prestressed Concrete (Design)	1	with/after CE 3221
CE 3121	Construction Materials and Testing	2	CE 2211	CE 3231	Geotechnical Engineering 2	3	CE 3131
CE 3121L	Construction Materials and Testing (Lab)	1	with/after CE 3161	CE 3231L	Geotechnical Engineering 2 (Lab)	1	with/after CE 3231
CE 3131	Geotechnical Engineering 1	3	CE 2231	CE 3241	Quantity Surveying	1	CE 3121
CE 3131L	Geotechnical Engineering 1 (Lab)	1	with/after CE 3121	CE 3241C	Quantity Surveying Computation	1	with/after CE 3251
CE 3141	Hydrology	2	CE 2231	CE 3251	Construction Engineering and Project Management	3	CE 3121
CE 3151	Numerical Solutions to CE Problems	2	EnggMath 4	CE 3261	Building Systems Design	2	CE 3161
CE 3151L	Numerical Solutions to CE Problems (Lab)	1	with/after CE 3151	CE 3261D	Building Systems Design (Drafting)	1	with/after CE 3271
CE 3161	Engineering Utilities 2	3	CE 2241		TOTAL UNITS	22.5	
CE 3161D	Engineering Utilities 2 (Drafting)	1	with/after CE 3161				
	TOTAL UNITS	25.5					
Course No.	Course Descriptive Title	Units	Co/Pre-requisite				
Short Term							
CE 3281	On the Job Training (240 hours minimum)	2	CE 3211				
CE 3281L	On the Job Training (240 hours minimum)	1	CE 3211				
	TOTAL UNITS	3					





## CURRICULUM

FOURTH YEAR	Course No.	Course Descriptive Title	Units	Co/Pre-requisite	Course No.	Course Descriptive Title	Units	Co/Pre-requisite
	<b>1st Semester</b>				<b>2nd Semester</b>			
	CFE 106A	Embracing the CICM Mission	1.5	CFE 105B	CFE 106B	Embracing the CICM Mission	1.5	CFE 106A
	CE 4111	Highway and Railroad Engg	3	CE 2121	CE 4211	Principles of Transportation Engineering	3	CE 4111
	CE 4121	CE Project 1	1	CE 3211, CE 3221, CE 3241	CE 4221	CE Project 2	1	CE 4121
	CE 4121D	CE Project 1 (Design)	1	with/after CE 4121	CE 4221D	CE Project 2; Specialized CE Course(Design)	1	with/after CE 4221
	CE 4131	Specialized Prof CE Course 1	3	CE 3211, CE 3221 or CE 3231	CE 4231	Specialized Prof CE Course 3	3	CE 4131
	CE 4131D	Specialized Prof CE Course 1 (Design)	1	with/after CE 4131	CE 4231D	Specialized Prof CE Course 3 (Design)	1	with/after CE 4231
	CE 4141	Specialized Prof CE Course 2	3	CE 3211, CE 3221, CE 3231	CE 4241	Specialized Prof CE Course 4	3	CE 4141
	CE 4141D	Specialized Prof CE Course 2 (Design)	1	with/after CE 4141	CE 4241D	Specialized Prof CE Course 4	1	with/after CE 4241
	CE 4151	Civil Engg Software Applications	1	CE 3211, CE 3221	CE 4251	Civil Engineering Board Review (w/ Mock Board)	1	CE 3281/L
	CE 4151L	Civil Engg Software Applications (Lab)	2	with/after CE 4151	CE 4261	Engineering Management	3	CE 4161
	CE 4161	Engineering Economics	3	CE 3281/L	CE 4271	CE Laws, Ethics and Contracts	2	CE 3281/L
	TOTAL UNITS		20.5		TOTAL UNITS		20.5	

TOTAL PROGRAM UNITS	222
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### SUGGESTED TRACK SPECIALIZATION

#### Structural Engineering Track

- Specialized Prof CE Course 1: Reinforced Concrete Design
- Specialized Prof CE Course 2: Foundation and Retaining Wall Design
- Specialized Prof CE Course 3: Design of Steel Structures
- Specialized Prof CE Course 4: Bridge Engineering

#### Geotechnical Engineering Track

- Specialized Prof GE Course 1: Geotechnical Earthquake Engineering
- Specialized Prof GE Course 2: Foundation Engineering
- Specialized Prof GE Course 3: Rock Mechanics
- Specialized Prof GE Course 4: Ground Improvement

- NOTE 1. The maximum load a graduating student 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 enrolled in the current term
3. Regular students are those with no advanced and back subjects based on the checklist
4. Required units: 222





## 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 CIVIL Engg	P 14,200.00	P 32, 614.00
FEES LISTED PER SEMESTER AND ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE		





## JOB OPPORTUNITIES AND FUTURE PROSPECTS

- Structural Engineer
- Design Engineer
- Building Engineer
- Construction Manager
- Geotechnical Engineer
- Transportation Engineer
- Water Resources Engineer

## CONTACT INFORMATION

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