B.S. IN ENGINEERING CURRICULUM

|Beginning Fall 2022|

- Math & Science Courses
- LUC Core/Foreign Language
- Engineering Design
- Engineering Core
- Engineering Systems
- Specialty Engineering Courses

FRESHMAN YEAR

FALL - 16 credit hours

- ENGR 101 Introduction to Engineering Design (4)
- MATH 161 Calculus I (4)
- BIOL 101 General Biology I
- BIOL 111 General Biology Lab (1)
- PHYS 121 College Physics I
- UNIV 101 First Year Seminar (1)

SPRING - 18 credit hours

- COMP 170 Object-Oriented Programming
- MATH 162 Calculus II (4)
- PHYS 122 College Physics II
- PHYS 112L College Physics Lab (1)
- UCWR 110 Writing Responsibility
- LUC Core
- ENGR 102 Freshman Seminar (1)

SOPHOMORE YEAR

FALL - 17 credit hours

- ENGR 201 Experiential Engineering
- MATH 263 Multivariate Calculus (4)
- CHEM 171 General Chemistry for ENGR
- CHEM 173 General Chemistry Lab for ENGR (1)
- LUC Core
- Foreign Language 101

SPRING - 17 credit hours

- ENGR 311 Engineering Systems I
- ENGR 321 Electronic Circuits & Devices (2)
- MATH 266 Differential Equations and Linear Algebra
- LUC Core
- LUC Core
- Foreign Language 102

JUNIOR YEAR

FALL - 15 credit hours

- ENGR 312 Engineering Systems II
- ENGR 322 Chemical & Thermal Processes
- ENGR 323 Digital Electronics/Computer Engineering (2)
- ENGR 324 Mechanics
- ENGR 324L Core Engineering Lab (1)
- LUC Core

SPRING - 16 credit hours

- ENGR 313 Engineering Systems III
- ENGR 325 Materials Engineering
- ENGR 3xx Specialty Engineering I
- ENGR 3xxL Specialty Engineering I Lab (1)
- STAT 203 Statistics
- LUC Core

SENIOR YEAR

FALL - 16 credit hours

- ENGR 38x Specialty Capstone Design I (4)
- ENGR 3xx Specialty Engineering II
- LUC Core
- LUC Core
- LUC Core

SPRING - 12 credit hours

- ENGR 39x Specialty Capstone Design II
- ENGR 3xx Specialty Engineering III
- LUC Core
- LUC Core

» Learn more at **LUC.edu/engineering.**

ENGINEERING STUDENT-CENTERED LEARNING

A Nationally-Ranked Program

- ABET-accredited since Fall, 2020.
- Once eligible for ranking in Best Undergraduate Engineering Programs (No Doctorate), the 2022 U.S. News & World Report ranked Loyola Engineering 39th (tied) of 239 U.S. programs.
- Once eligible for ranking in the American Society for Engineering Education (ASEE) survey, Loyola Engineering is 6th of 429 in 2020 Percentage Bachelor's Degrees Awarded to Women.
- First U.S. program to fully integrate engineering and social justice.
- Engineering classrooms/labs are badge-access only for our students, to facilitate community.

A Distinctive Curriculum

- Industry leaders provide input to specialty courses, ensuring that students have relevant skills for summer internships.
- The curriculum focuses on system theory and engineering design--both are key areas that will set students apart when they graduate.
- Senior capstone projects are industry-sponsored over two semesters, with each student group meeting weekly with its Sponsor.
- Each ENGR course section seats at most 24 students, to facilitate Active Learning.

LOYOLA UNIVERSITY CHICAGO 1870 AD · MAJOREM · DEI · GLORIAM

Preparing people to lead extraordinary lives

Active Learning

Definition: Any instructional method that engages students in the learning process, including Collaborative and Problem-Based Learning.

Learning Outcomes: Increased student performance (Freeman, et al., Proceedings of the National Academy of Sciences, 2014, 111: 8410-8415). Greater frequency of student-centered teaching leads to greater design skills for women (Ro and Knight, Journal of Engineering Education, 2016, 478-507).

Curriculum Use: Every ENGR course meeting starts with a mini-lecture, followed by group activities.

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