MECHANICAL ENGINEERING, M.S.

The Department of Aerospace and Mechanical Engineering at Saint Louis University offers an M.S. and a Ph.D. program in mechanical engineering (https://catalog.slu.edu/colleges-schools/science-engineering/aerospace-mechanical/mechanical-engineering-phd/) designed to prepare students to address emerging challenges in the field. The curriculum integrates foundational mechanical engineering principles with current industry trends and immersive, experiential learning opportunities.

Students develop a strong technical foundation while engaging in cross-disciplinary collaboration. This approach prepares graduates to be effective problem solvers, ethical innovators, and leaders who understand the broader environmental and societal impacts of engineering decisions.

Admission Requirements

Begin your application for this program at https://gradapply.slu.edu/apply/.

Most admitted students meet the following criteria:

- A four-year B.S. degree in Aerospace or Mechanical Engineering or closely related engineering and science disciplines
- Undergraduate cumulative GPA of at least 2.75.
  - A GPA below 2.5 will automatically disqualify the applicant from consideration, while a GPA of 2.5 - 2.75 will require a detailed review by the Aerospace & Mechanical Engineering Department and does not guarantee acceptance.

Application Requirements

• Application form

• Transcript(s) from all colleges and universities attended.

• Two letters of recommendation (preferably from recent instructors)

• Professional goal statement. The statement should clearly indicate students' interest in Aerospace/Mechanical Engineering, identify professional/research goals, and describe students' anticipated contributions to SLU.

Requirements for International Students

Along with the general admission requirements above, the following must be provided by prospective international students:

• Demonstration of English Language Proficiency (https://www.slu.edu/admission/international/english-proficiency.php)

• Proof of financial support that must include:

• A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University.

• A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University.

• Academic records, in English translation, for postsecondary studies outside the United States. These must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted. Both semester-wise as well as consolidated transcripts should be submitted.

Review Process

All applicants are admitted to non-thesis option. The applications are evaluated in a holistic manner based on both academic and extracurricular activities. Based on their research interests, openings in the research group, students can switch from non-thesis to thesis during the first semester of the program.

In cases where students come from a non-Aerospace/Mechanical engineering background, the applications will be sent to the Aerospace & Mechanical Engineering department to review and determine fit and/or pre-requisite/concurrent classes that the applicant would need to take to qualify for the M.S. program. Such applicants may receive conditional admission.

Apply Now (https://gradapply.slu.edu/apply/)

Tuition

Tuition	Total Program Cost
MS Mechanical Engineering	$42,000

Additional charges may apply. Other resources are listed below:

Information on Tuition and Fees (https://catalog.slu.edu/academic-policies/student-financial-services/tuition/)

Miscellaneous Fees (https://catalog.slu.edu/academic-policies/student-financial-services/fees/)

Information on Summer Tuition (https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer-current/)

Financial Support

The School of Science and Engineering offers graduate fellowship awards and assistantships each year. Assistantships provide tuition, stipend and health insurance. There are also many opportunities for students to receive funding through external research grants that are managed by individual faculty.

For more information, visit the Office of Student Financial Services (https://slu.edu/financial-aid/).

Learning Outcomes

1. Apply advanced mathematical and scientific principles, and computational and modeling tools to solve mechanical engineering problems.
2. Communicate complex technical information effectively.
3. Identify, evaluate, and synthesize advanced knowledge from scholarly and technical resources.

Requirements

All coursework must be completed with a minimum grade of B.

Code	Title	Credits
Foundational Courses		
CVNG 5010	Scholarly Practices in Engineering	3
MENG 5840	Numerical Methods	3

Core Courses		**12**
Students select 12 credits from the following:		
MENG 5240	An Introduction to Turbulence	
MENG 5300	Computational Heat Transfer	
MENG 5440	Kinematics of Robotics Manipulators: a Modern Approach	
MENG 5710	Energy Systems Analysis and Optimization	
MENG 5720	Sustainable Energy Systems	
MENG 5820	Technology Entrepreneurship	
MENG 5830	Medical Product and Design and Entrepreneurship	
Elective Courses		**12**
Students should select 12 credits from AENG/MENG graduate courses or additional core courses. Students wishing to take non-AENG/MENG graduate courses must be approved by the thesis advisor or the graduate program director. Suggested disciplines include mathematics, natural sciences, business, computer science, and engineering.		
Thesis Option		
Students conducting a thesis will take 6 credits of Master's Thesis Research.		
MENG 5994	Thesis Research	
Total Credits		**30**

Non-Course Requirements

The Aerospace & Mechanical Engineering Department offers a Graduate/Research seminar each fall and spring semester. MS students are required to attend two semesters of seminar. Students are permitted to miss at most three seminar sessions each semester or will not receive credit for the seminar that semester.

Additional non-course requirements for thesis students

· Completion of written research proposal

· Completion of oral defense of research proposal

· Completion of written thesis

· A Thesis Defense consisting of a public oral presentation and a private oral examination

Roadmap

This roadmap is just one example of a semester-by-semester plan of study for this program. There are other plans students can and do take. The plan of study for each particular student is established in consultation with each student's academic advisor; *this roadmap does not replace academic advising appointments.*

Roadmap notes:

- This Roadmap assumes full-time enrollment unless otherwise noted.
- Courses/Milestones marked with an "!" are critical and must be completed in the semester listed in the Roadmap to ensure a timely graduation.
- Course availability and sequencing are subject to change.

Course	Title	Credits
Year One		
Fall		
CVNG 5010	Scholarly Practices in Engineering	3
Core Course		3
Seminar		0
	Credits	**6**
Spring		
MENG 5840	Numerical Methods	3
Core Course		3
AENG/MENG Elective		3
Seminar		0
	Credits	**9**
Year Two		
Fall		
Core Course		3
AENG/MENG Elective		3
MENG 5994	Thesis Research (or Elective)	3
	Credits	**9**
Spring		
Core Course		3
MENG 5994	Thesis Research (or Elective)	3
	Credits	**6**
	Total Credits	**30**

Contact Us

For more information about any School of Science and Engineering graduate program, email ssegrad-admissions@slu.edu.