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Engineering, M.S.E., Mechanical Engineering Concentration



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All specialty aspects of mechanical engineering that align with the UL Lafayette Department of Mechanical Engineering faculty's areas of expertise can serve as potential specialization areas for both course selection and thesis topics. Example areas of particular emphasis by the department include alternative energy, manufacturing, systems vibration, metal forming, computational fluid dynamics, machine science, process modeling and optimization, computer aided design, and automotive engineering.

Course Requirements

Degree candidates must maintain a minimum GPA of 3.0, after the first 12 units, to remain in the program. All students are required to complete the two College of Engineering core courses and two Mechanical Engineering Core courses as outlined below.

College of Engineering Core Requirements

- ENGR 501 – Data Analysis for Engineering Projects **3 Credit(s)**.
- MCHE 508 – Engineering Project Management **3 Credit(s)**.

Mechanical Engineering Core Requirements

Two of the three below:

- MCHE 513 – Intermediate Dynamics **3 Credit(s)**.
- ENGR 513 – Engineering Analysis I **3 Credit(s)**. or
- other approved proved mathematics course

Thesis Option

Students pursuing the thesis option must complete 24 units of coursework and six thesis research hours. Of the 24 units of coursework, 12 are college and departmental core courses. The remaining 12 credit hours shall consist of additional graduate courses from the MCHE department or approved graduate courses from mathematics or other engineering departments. Up to three credit hours of the coursework may be independent study courses. All graduate courses must be approved by both the committee chairperson and the department graduate coordinator.

Non-thesis Option

Students pursuing the non-thesis option must complete 33 units of coursework and three units of non-thesis research. Of the 33 units of coursework, 12 are college and departmental core courses. The remaining 21 units shall consist of additional graduate courses from the MCHE department or approved graduate courses from mathematics or other engineering departments. Up to three units of the coursework may be independent study courses. All graduate courses must be approved by both the committee chairperson and the department graduate coordinator. Non-thesis students are also required to pass a written exam covering at least three technical subjects and an oral exam.

Graduate Assistantships

Graduate assistantships are available on a competitive basis. Departmental assistantships may take the form of tuition waivers or stipends and tuition waiver. Students receiving a tuition waiver are required to put in 10 hours a week of service to the department (grading, assisting in laboratories, monitoring computer laboratories, etc.). Students receiving stipends and tuition waivers are required to put in 20 hours of service to the department. Graduate students supported by individual faculty members on research grants are expected to work on the funded project.

Students with a Bachelor of Science in Mechanical Engineering who are accepted into the graduate program are automatically considered for departmental assistantships. Students entering the program without a BSME must complete three quarters of the leveling courses (listed below) before being considered for graduate assistantships. Students interested in specific research areas are encouraged to contact professors doing work in that area.

Leveling Courses

Students admitted to the program without a BSME must complete the following leveling courses with a C or better. Any deviations from this list must be approved by the Mechanical Engineering graduate affairs committee. Three quarters of this coursework must be completed before a student is eligible for a graduate assistantship.

Calculus I	Statics	Instrumentation Laboratory
Calculus II	Dynamics	Heat Transfer
Differential Equations	Mechanics of Solids	Machine Design I
Physics I – Mechanics	Engineering Fluids	Controls
	Thermo I	

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