Doctoral Degrees

Policies & Regulations

A key objective of the doctoral program is to promote cutting-edge multidisciplinary research and education in the areas of mechanical engineering and materials science. Students are selected for admission to the program by a competitive process, and they typically start in the fall semester. On arriving at Washington University in St. Louis, the student will be advised by the temporary advisor on all procedural issues. The student will choose a permanent advisor by the end of the first year of residency in the program.

Summary of Requirements for Doctoral Students

The following is a brief summary of the requirements for students in the Mechanical Engineering & Materials Science doctoral programs:

1. Pass the qualifying exams. Qualifying exams should be taken by the end of the first year.
2. Prepare and defend a research proposal. The research proposal should be defended by the end of the third year.
3. Write and successfully defend the doctoral dissertation.
4. Complete a minimum of 36 units of course credit and a minimum of 24 units of doctoral research; a total of 72 credit units is required to earn the PhD degree.
5. Satisfy the general teaching requirement as specified by the department. (There is no teaching requirement for the DSc.)

Degrees Offered

The Department of Mechanical Engineering & Materials Science (MEMS) offers the following doctoral degrees:

- PhD in Mechanical Engineering
- PhD in Aerospace Engineering
- DSc in Mechanical Engineering, Aerospace Engineering, or Materials Science

The requirements for the DSc in Mechanical Engineering, Aerospace Engineering, or Materials Science and Engineering are identical to those for the PhD except for the following: (1) the mentored teaching experience is not required for the DSc; (2) the residency requirement for the DSc is limited to 24 units completed at Washington University; and (3) the requirements for research rotations and the time limits for the completion of the qualifying exam, proposal, and thesis defense for the PhD do not apply to the DSc. The DSc is recommended for students who will pursue doctoral studies part-time. Stipend support from grants or contracts is typically not available to DSc candidates.

- Students may also pursue a PhD in Materials Science — through the Institute of Materials Science & Engineering (IMSE) — while working with professors from the Department of Mechanical Engineering & Materials Science. For details about this program, visit the IMSE Graduate Program (http://imse.wustl.edu/graduate-program/) webpage.

For more information about MEMS PhD degrees, visit the MEMS Graduate Programs (https://mems.wustl.edu/graduate/programs/Pages/default.aspx) webpage.