Graduate Degrees in Materials Science and Engineering offered in the Department of Mechanical Engineering and Materials Science of the School of Engineering at the University of Pittsburgh

The Department of Mechanical Engineering and Materials Science (MEMS) offers advanced degrees in Materials Science and Engineering (MSE), including Master of Science (MS) and Philosophical Doctor (PhD).

MS Degrees

The Master of Science (MS) degree in materials science and engineering (MSE) may be pursued as either a **professional MS track** program (course based) or a **research MS track** (thesis based). Students can tailor their individual MS programs to emphasize different aspects of materials science and engineering (e.g., ceramics, metallurgy).

Professional MS Track

The professional MS track is primarily oriented toward part-time students currently working in industry.

Professional MS Track Requirements

The professional track consists of a minimum of 30 course credits (equivalent to 10 courses). There are no thesis or comprehensive examination requirements for this degree. Up to nine (9) credits of coursework counting towards the 30 course credits requirement may consist of non-MSE courses in other Engineering, Science or Mathematics disciplines that are approved by a student's advisor. No more than six credits may be granted to a student as transfer credit for work done at another accredited graduate institution. At least 21 course credits must be obtained from MSE 2000 and 3000 courses, **not** including Graduate Seminar (MSE 3023 and 3024), MS Research (MSE 2997), and MS Thesis (MSE 2999). An independent graduate project (MSE 2998) can be conducted after consultation with the student's faculty advisor and may account for 3 of the 21 required MSE credits. Students with non-MSE backgrounds are strongly encouraged to take for credit introductory courses (e.g. MSE 2067, MSE 2068 or equivalent). MS degrees are conferred only on those students who have completed all course requirements with at least a 3.00 (B) GPA.

General Requirements

The minimum requirements detailed above are specific to the Department of Mechanical Engineering and Materials Science. For general requirements for the MS program, visit the School of Engineering Graduate Programs section and/or consult relevant general guidelines and resources provided by the University.

Research MS Track

The research track is primarily for full-time students who have the intention to pursue a PhD or are strongly oriented toward a research career. The University transcript will include an entry indicating that a student is in the research MS track.

Research MS Track Requirements

The Research Track MS degree requires a minimum of 30 credits of course and research based graduate study, including at least 21 course credits. At most up to nine (9) credits of coursework counting towards the required minimum of 21 course credits may consist of technical courses in other non-MSE Engineering, Science or Mathematics disciplines that are approved by a student's advisor. No more than six (6) credits may be granted toward completion of the requirements for the Research Track MS for work completed at another accredited graduate institution. A minimum of 12 course credits must be derived from 2000- and 3000-level MSE courses, **not** including credits associated with Graduate Seminar (MSE 3023 and 3024), MS Research (MSE 2997), and MS Thesis (MSE 2999). Students with non-MSE backgrounds are strongly encouraged to take for credit introductory courses (e.g. MSE 2067, MSE 2068 or equivalent). The student's advisor must approve the course sequence selection. In addition to coursework requirements a minimum of 3 credits of MS research (MSE 2997) and six (6) credits of MS Thesis (MSE 2999) are required. Master's degrees are conferred only on those students who have completed all courses required for the degree with an average grade of least a 3.00 (B) GPA.

MS Thesis

An MS student should initiate research work as early as possible and then register for MS research (MSE 2997). Once thesis preparation has begun, a student must register for thesis credits (MSE 2999) in each succeeding term until successful completion of the thesis and a final oral defense and comprehensive exam. The MS thesis document is at least expected to be a report on independently conducted research and must adhere to the School of Engineering defined style and format. A *Style and Form Manual* for a thesis is available in the Engineering Office of Administration.

The purpose of an MS thesis oral defense is to evaluate an MS thesis and the student's command of the research subject. The successful completion of a defense is a requirement for the MS degree. The thesis examining committee consists of at least three members of the MSE faculty who are recommended by the student's advisor and approved by the department chair.

After successfully completing a defense, a student must deposit a electronic and/or hardcopies of the approved thesis in accordance with the current guidelines (New guidelines) for thesis submissions available from the Office of Administration of the School of Engineering or the MSE Program Office.

Part-time students may pursue the research MS track. However, they must recognize that, although their thesis topics may be related to the broad technical area of their employment, results of work-related routine technical activities, analysis, surveys, or studies conducted for employers are **not** acceptable for inclusion in MS theses. Furthermore, part-time students should become aware of the University Intellectual Property Ownership Policy before undertaking theses. Prospective students must clarify all of these issues before contemplating a research-based MS degree.

General Requirements

The previous requirements are specific to the Department of Mechanical Engineering and Materials Science. For general requirements for the MS program, visit the School of Engineering Graduate Programs section.