

ENGINEERING (MS)

Contacts

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Campus: East Falls

Program Website (<https://www.jefferson.edu/academics/colleges-schools-institutes/kanbar-college-of-design-engineering-commerce/school-of-design-engineering/academic-programs/ms-in-engineering.html>)

Program Description

- **STEM designated program**

This program is intended to develop the graduate student's knowledge in the advanced fields of engineering. Students with undergraduate education in the fields of engineering, chemistry, technology and materials science are welcome to pursue this program. The wide range of engineering, materials science, and textile courses will prepare the student to make significant contributions in either advanced engineering, material science, or textile fields. The carefully integrated educational offerings at the University enable the student to be exposed to a wide range of professional education possibilities. A thesis experience is provided during the final two semesters.

Learning Goals/Outcomes

- Demonstrate knowledge & proficiency in technical aspects of engineering
- Analyze and criticize established theories and synthesize new theories.
- Understand and evaluate engineering theory
- Apply their acquired skills toward the development of a unique research project
- Demonstrate a competent knowledge and proficiency in the field of engineering, materials science, or textile engineering
- Perform written and oral technical communications at a competent level

Curriculum: 2 Years, 30 Credits

- For students matriculating in the MS Engineering program with no undergraduate background in engineering, a group of foundation courses may be required. The foundation courses will be determined at the time of admission by the program director.
- Students select 8 courses from TEXT or ENGR options
- ENGR 701 Thesis I and ENGR 702 Thesis II, taken the final two semesters, are required.

Code	Title	Credits
Select eight of the following		
TEXT 500	Intro to Polymer Material Sci	3
TEXT 601	Fiber and Yarn Studies	3
TEXT 602	Textile Sustainability	3
TEXT 603	Adv Integ Engg Product Develop	3
TEXT 622	Mechanics of Textiles	3
TEXT 624	Advanced Textile Composites	3
TEXT 625	Biomaterials Technology	3
TEXT 713	Coloration & Finishing Studies	3

Code	Title	Credits
TEXT 721	Analytical Methods	3
TEXT 751	Adv Woven Structures Prod Dev	3
TEXT 752	Advanced Knitted Structures	3
TEXT 753	Adv Nonwoven Structur Prod Dev	3
TEXT 754	Indstrl, Specialty Fab Prod Dev	3
TEXT 759	Product Evaluation	3
TEXT 790	Quality Mgt	3
TEXT 797	Selected Topics	3
TEXT 798	Independent Study	3
TEXT 623	Intro to Life Cycle Analysis	3
ENGR 624	Lean Manufacturing	3