

# MATERIALS SCIENCE AND ENGINEERING, DOCTOR OF PHILOSOPHY (PH.D.)

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Students wishing to pursue a Ph.D. must complete 45 credits of core and specialized coursework and a dissertation based on original research. After the completion of the second semester of coursework, the student will take the Ph.D. qualifying examination.

**Advance to Candidacy:** Students must complete the four core courses listed below with a minimum of 2 grades of A- or higher and 2 grades of B- or higher. In addition, students must successfully complete a qualifying exam.

**Post-Candidacy:** Students must complete at least 18 credits of ENMA899 Doctoral Dissertation Research as well as defend and submit an original dissertation.

Course	Title	Credits
Required courses:		
ENMA650	Nanometer Structure of Materials	3
ENMA660	Thermodynamics in Materials Science	3
ENMA661	Kinetics of Reactions in Materials	3
ENMA671	Defects in Materials	3
or ENMA620	Polymer Physics	
ENMA688	Seminar in Materials Science and Engineering	3
Remainder of coursework		12
<b>Dissertation Research Requirements</b>		
ENMA899	Doctoral Dissertation Research	18
<b>Total Credits</b>		<b>45</b>