

MATERIALS, INFORMATICS AND DESIGN - CERTIFICATE

Program Requirements

Code	Title	Semester Credit Hours
MEEN 601	Advanced Product Design	3
	or MEEN 683 or Multidisciplinary System Analysis and Design Optimization	
MSEN 655	Materials Design Studio	3
MSEN 659	Materials Design ePortfolio	0
MSEN 660/ ECEN 769	Materials Informatics	3
	Select one of the following:	3
CHEM 466	Polymer Chemistry	
CHEM 468	Materials Chemistry of Inorganic Materials	
CHEM 623	Surface Chemistry	
CHEN 641	Polymer Engineering	
CHEN 642	Colloidal and Interfacial Systems	
MEEN 607/ MSEN 607	Polymer Physical Properties	
MSEN 601	Fundamental Materials Science and Engineering	
MSEN 603	Fundamentals of Soft and Biomaterials	
MSEN 618	Composites Processing and Performance	
PHYS 617	Physics of the Solid State	
	Select one of the following:	3
CHEM 483	Green Chemistry	
CHEM 658	Molecular Modeling	
CHEM 684	Professional Internship	
CHEN 459	Gas and Petroleum Processing	
CHEN 665	Sustainable Design of Chemical Processes	
CHEN 684	Professional Internship	
ECEN 684	Professional Internship	
ECEN 711	Sustainable Energy and Vehicle Engineering	
ECEN 712	Power Electronics for Photovoltaic Energy Systems	
ECEN 715	Physical and Economical Operations of Sustainable Energy Systems	
ENGR 681	Professional Development Seminar	
MEEN 633	Combustion Science and Engineering	
MEEN 662	Energy Management in Industry	
MEEN 665	Application of Energy Management	
MEEN 684	Professional Internship	
MGMT 632	Technology Commercialization	
MGMT 637	Foundations of Entrepreneurship	

MGMT 640	Managing for Creativity and Innovation	
MSEN 619/	Materials Modeling of Phase	
NUEN 660	Transformation and Microstructural Evolution	
MSEN 657	Multiscale Modeling in Materials	
MSEN 670	Computational Materials Science and Engineering	
MSEN 684	Professional Internship	
PHYS 619	Modern Computational Physics	
Total Semester Credit Hours		15