Product Development, MS

Product development is in demand across many technology industries and is widely thought to be the engine of innovation. The Sherman Center for Entrepreneurial Engineering Education is uniquely positioned to offer students a combination of product process and technical skills. The mission of the center is to enable interdisciplinary student entrepreneurship in the broadest sense by providing education about tools, concepts, and resources to foster creativity and the ability to develop commercially viable ideas.

Products ranging from smart devices, to the Internet of Things, to software as a service all require people with product development skills. These positions guide product innovation and lead in crafting products for users. A look at any careers page for any technology firm currently hiring shows many positions open for individuals that have a mix of technical and product development knowledge.

The Master of Science in Product Development program contains a core of courses that span the product development cycle and then allows students to customize the rest of their degree to fit their chosen industry or path. The core courses cover topics such as customer acquisition, technical market analysis, product life cycle, intellectual property, prototyping, iterative development, product design, user testing, and manufacturing.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
GE 5010	Customer-Driven Technical Innovation for Engineers	4
GE 5020	Engineering Product Design Methodology	4
GE 5030	Iterative Product Prototyping for Engineers	4
GE 5100	Product Development for Engineers	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 1)		16

PROJECT OPTION

Code	Title	Hours
GE 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 1)		12

THESIS OPTION

Code	Title	Hours
GE 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 1)		8

COURSE LIST

Code	Title	Hours
College of Engineering		
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 7280	User Experience Design and Testing	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5580	Classical Control Systems	
EECE 5639	Computer Vision	
EECE 5666	Digital Signal Processing	
IE 5617	Lean Concepts and Applications	
IE 5630	Biosensor and Human Behavior Measurement	

IE 6200	Engineering Probability and Statistics
IE 6500	Human Performance
IE 7200	Supply Chain Engineering
IE 7270	Intelligent Manufacturing
INFO 6660	Business Ethics and Intellectual Property for Engineers
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 5650	Advanced Mechanics of Materials
ME 5659	Control Systems Engineering
TELE 6510	Fundamentals of the Internet of Things
TELE 6530	Connected Devices
D'Amore McKim School of Business	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6250	Lean Design and Development
INNO 6200	Enterprise Growth and Innovation
INNO 6230	Platform Innovation
MKTG 6200	Creating and Sustaining Customer Markets
College of Arts, Media and Design	
ARTG 5120	Research Methods for Design
ARTG 5310	Visual Cognition
ARTG 5610	Design Systems
ARTG 5640	Prototyping for Experience Design
ARTG 6310	Design for Behavior and Experience
GSND 5110	Game Design and Analysis
GSND 5122	Business Models in the Game Industry
GSND 5130	Mixed Research Methods for Games
GSND 6320	Psychology of Play
GSND 6340	Biometrics for Design
Bouvé College of Health Sciences	
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required