Degree Proposal
Master of Science in Product Development
College of Engineering

Executive Summary

The technology sector has continued to be the furnace powering the world economy through COVID and leading in addressing problems such as climate change through technology development. Ranging from smart devices, to the internet of things, to software as a service product development is key to the success of businesses. The US tech industry has an estimated market size of $1.6 trillion in 2021[1]. The tech industry is expected to grow by 6% and the possibility of up to a quarter million new jobs by the end of 2022. Leaders in many companies are product managers and engineers. 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 Sherman Center for Engineering Entrepreneurship Education in the College of Engineering proposes a new graduate program, the Masters of Science in Product Development, to allow students to meet the current and projected demand for skilled product engineers and managers. This program builds off a core of entrepreneurial engineering and product development while allowing students to choose a path in alignment with their chosen industry through their diverse elective course selections across four colleges. The program utilizes currently offered courses and infrastructure meaning that it would require minimal additional cost and effort to launch with a large potential upside in enrollment.

This degree program seeks to educate students who want to persue employment in many technology industries. The educational objectives of the program are to establish the foundation for the systems approach needed to conceive, create, launch, and support products and platforms. The program considers new product development in a larger framework: how a venture's strategy, vision, and core capabilities coupled with the voice of the customer combine to determine product strategy and create best-in-class product portfolios. From the engineering viewpoint, product development can be seen as a process from invention, design, planning and production, to service phases.

The total degree program will require 32 semester hours. The program will consists of a common core of 16 semester hours in product development and then three options: (1) 16 additional semester hours of elective coursework, (2) 12 semester hours of elective courses and a 4 semester hour project, and (3) 8 semester hours of elective coursework and 8 semester hours of thesis. There are over forty elective courses available to students come from many departments within the College of Engineering as well as course from the D'More-McKim School of Business, the College of Art, Media and Design, and the Bouvé College of Health Sciences.

This program has been created and offered by the academic board of the Sherman Center in the College of Engineering and was approved by the College of Engineering Graduate Council on

January 12th, 2022. On February 23rd, 2022 it was approved by the University Graduate Council and has the support of Associate Dean Waleed Meleis.

Program Description

The MS in Product Develop with position students to be in demand across many technology industries and 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. This program addresses these skills through a through, interdisciplinary, and dynamic set of over 40 elective courses ranging in topics from robotics, to visual cognition, to platform innovation, to connected devices, to intelligent manufacturing, to measurements and analysis.

The MS 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. Students will be able to follow an idea all the way through the process using the core courses to do so.

The program will take advantage of various co-op opportunities within the Sherman Center Co-op model. This unique program challenges students to develop milestones to be accomplished at the end of each month. Be at the Sherman Center during daytime business hours, 9:00AM-5:00PM. Submit a 1-page report at the end of each week detailing progress on milestones. Give a formal presentation on progress toward milestones at the end of each month

Program Contribution to the University's Mission

This program in Product Development offers significant contributions to Northeastern's mission. This program produces professionals that can empower the Northeastern network. The program not only can attract graduate students from many countries it can also provide another attractive option for Northeastern's BS students to pursue for their Plus One. This MS program opens additional avenues for university-industry collaborative projects and new opportunities for graduate co-op positions. The core of the program is technology platform agnostic allowing students a customized experience through disciplinary electives to craft the best degree for them. We also envision this program expanding to other campus nodes, such as San Francisco and Seattle.