

# PRODUCT INNOVATION AND COMPUTING (MS)

\*Note - This program is no longer accepting students.

The Master of Science in Product Innovation and Computing is a joint master's degree with the College of Computing & Digital Media (CDM) and the Kellstadt Graduate School of Business (KGSB). This STEM degree incorporates the innovation and entrepreneurship processes with computer science, allows students in the program to recognize broader issues in technology-related problems and understand the business constraints affecting this technology.

Program Requirements	Quarter Hours
Introductory Courses	0-20
Degree Requirements	52
<b>Total hours required</b>	<b>52-72</b>

## Learning Outcomes

Students will be able to:

- Demonstrate innovative abilities, including user-centered design thinking, diagnosing problems and developing opportunities for new products and services.
- Develop a business idea and the ability to navigate the entrepreneurial process from pre-venture and start-up to growth.
- Explain how to implement an innovative culture for business growth. Solve a specific problem by selecting appropriate data structures and algorithms and customize them to the problem.
- Interpret new APIs and use them in developing computer applications.
- Implement systems that run across several distributed computers.
- Deconstruct problems using techniques from functional and object-oriented programming.

## Degree Requirements

### Course Requirements

No Introductory Course may be substituted for any other course at any level.

### Introductory Courses

Course	Title	Quarter Hours
CSC 401	INTRODUCTION TO PROGRAMMING	4
CSC 402	DATA STRUCTURES I	4
CSC 403	DATA STRUCTURES II	4
CSC 406	SYSTEMS I	4
CSC 407	SYSTEMS II	4

Introductory courses may be waived for any of the following conditions:

- The student has the appropriate course work to satisfy an Introductory Course.
- The student has appropriate and verified professional experience to satisfy an Introductory Course.

- If an exam is available, the student passes a Graduate Assessment Examination (GAE) in the Introductory Course area.

### Foundation Courses

Course	Title	Quarter Hours
CSC 435	DISTRIBUTED SYSTEMS I	4
CSC 447	CONCEPTS OF PROGRAMMING LANGUAGES	4
GSB 525 or MGT 590	BUSINESS INNOVATION & DESIGN (FORMERLY MGT 573) MANAGEMENT OF INNOVATION AND TECHNOLOGICAL CHANGE	4
MGT 500	LEADING EFFECTIVE AND ETHICAL ORGANIZATIONS	4
MGT 598	PROJECT MANAGEMENT	4

### Computing Elective Courses

Course	Title	Quarter Hours
Select 16 Credit Hours from the following:		16
CSC 436	WEB APPLICATIONS	
CSC 438 or SE 452	FRAMEWORK FOR WEB APPLICATION DEVELOPMENT OBJECT-ORIENTED ENTERPRISE COMPUTING	
CSC 471	MOBILE APPLICATION DEVELOPMENT FOR IOS	
CSC 491	MOBILE APPLICATION DEVELOPMENT FOR IOS II	
CSC 472	MOBILE APPLICATION DEVELOPMENT FOR ANDROID	
CSC 492	MOBILE APPLICATION DEVELOPMENT FOR ANDROID II	
SE 441	CONTINUOUS DELIVERY AND DevOps	
Any graduate course beyond the Introductory Course level from GPH, CSC, CSEC, DSC, ECT, GAM, HIT, HCI, IS, IT, PM, SE, or NET <sup>1</sup>		

<sup>1</sup> Students may choose one (1) graduate course beyond the Introductory Course level from the following subjects as one of the four Computing Electives: GPH, CSC, CSEC, DSC, ECT, GAM, HIT, HCI, IS, IT, PM, SE, or NET.

### Management Elective Courses

Course	Title	Quarter Hours
Select twelve (12) credit hours from the following:		12
GSB 525	BUSINESS INNOVATION & DESIGN (FORMERLY MGT 573) (if not taken as the Foundation Course requirement)	
MGT 535	CHANGE MANAGEMENT AND CONSULTING	
MGT 563	NEGOTIATION SKILLS	
MGT 569	LEGAL ASPECTS OF ENTREPRENEURSHIP	
MGT 570	ENTREPRENEURSHIP AND NEW VENTURE MANAGEMENT	

MGT 589	EXECUTIVE COACHING: LEADERSHIP IN A VOLATILE, UNCERTAIN, CHAOTIC AND AMBIGUOUS BUSINESS ENVIRONMENT
MGT 590	MANAGEMENT OF INNOVATION AND TECHNOLOGICAL CHANGE (if not taken as the Foundation Course requirement)
MGT 595	SOCIAL AND SUSTAINABLE ENTERPRISE
MGT 793	MANAGEMENT INTERNSHIP
MGT 798	SPECIAL TOPICS <sup>1</sup>
MKT 555	MARKETING MANAGEMENT
MKT 576	EFFECTIVE BUSINESS COMMUNICATION

<sup>1</sup> Students must take only sections of MGT 798 where the topic is related to Entrepreneurship or Innovation.

### Capstone

Course	Title	Quarter Hours
IS 580	TECHNOLOGY ENTREPRENEURSHIP	4