Republic of the Philippines
BATANGAS STATE UNIVERSITY
Pablo Borbon Main II, Alangilan Batangas City
COLLEGE OF ENGINEERING, ARCHITECTURE & FINE ARTS
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Master of Engineering major in Computer Engineering (M.Engg.Cp.E.)
Academic Year 2020-2021
Reference: Final Draft of CMO – PSG for graduate degree programs in Engineering

PROGRAM DESCRIPTION

The Master of Engineering is an applications – or project – oriented degree that emphasizes the application of theories and methods to actual problems in industry and academe. It is designed to develop engineering graduates their expertise through advanced courses and specialized electives.

PROGRAM EDUCATIONAL OBJECTIVES

The graduates of Master of Engineering after graduation shall:
1. successfully practice as computer engineering specialists for the welfare of society;
2. demonstrate a high degree of professionalism in the workplace.

STUDENT OUTCOMES

The graduates of Master of Engineering should have the ability to:
a. Demonstrate a comprehensive and in-depth understanding of engineering principles and apply advanced knowledge on the specific discipline;
b. Analyze, synthesize, create and evaluate engineering systems;
c. Design components, devices and systems to meet specified engineering needs under real – world constraints;
d. Communicate effectively technical knowledge, both orally and in writing, on complex multidisciplinary activities
e. Function effectively as a dynamic individual, a team member, or as a leader in multi-cultural/cross-cultural work environment;
f. Contribute to the generation, dissemination and preservation of engineering knowledge, methodologies, techniques, and processes;
g. Engage in professional development and life-long learning;
h. Conduct oneself within professional and ethical standards; and
i. Perform independent industry research that results in innovation and practical application.

CURRICULUM OUTLINE

MASTER OF ENGINEERING MAJOR IN COMPUTER ENGINEERING

Core Courses (9 units)		
Course Code	**Course Title**	**Credit Units**
ENGG 501	Computational Mathematics 1	3
ENGG 502	Computational Mathematics 2	3
ENGG 503	Design of Experiments and Data Analytics	3
Major Courses (9 units)		
Course Code	**Course Title**	**Credit Units**
ENGG504	Applied Materials Science and Engineering	3
MCpE 504	High Performance and Parallel Computer Architectures	3
MCpE 506	Artificial Intelligence with Python	3
Elective Courses (12 units)		
Course Code	**Course Title**	**Credit Units**
	Networks	
MCpE 505	Wireless Networks	3
MCpE 507	Advanced Broadband Communication Systems	3
MCpE 508	Wide Area Network Technologies	3
MCpE 509	Computer Networks and Security	3
	Artificial Intelligence	
MCpE 510	Expert Systems	3
MCpE 511	Fuzzy Logic	3
MECE 517	Machine Learning	3
MECE 518	Neural Networks	3
	Embedded Systems	
MCpE 512	Embedded Systems	3
MCpE 513	Microcontroller Application	3
MCpE 514	Sensors	3
MCpE 515	Human Machine Interface	3
Capstone Project (6 units)		
Course Code	**Course Title**	**Credit Units**
ENGG 505	Industry - based Capstone Project 1	3
ENGG 506	Industry - based Capstone Project 2	3

* 2 – 3 electives may be GIVEN CREDITS from RPL

MAPPING OF CURRICULAR COURSES TO STUDENT OUTCOMES

Course Code	Course Title	Student Outcomes								
		a	b	c	d	e	f	g	h	i
ENGG 501	Computational Mathematics 1	x								
ENGG 502	Computational Mathematics 2	x								
ENGG 503	Design of Experiments and Data Analytics		x	x	x					
ENGG504	Applied Materials Science and Engineering	x			x					
MCpE 504	High Performance & Parallel Computer Architectures	x		x						
MCpE 506	Artificial Intelligence with Python	x	x							

Course Code	Course Title								
MCpE 510	Expert System	x	x						
MCpE 511	Fuzzy Logic	x	x						
MECE 517	Machine Learning				x	x			
MECE 518	Neural Networks				x	x			
MCpE 512	Embedded Systems	x		x					
MCpE 513	Micro Controller Application	x		x					
MCpE 514	Sensors	x		x					
MCpE 515	Human Machine Interface	x	x						
MCpE 505	Wireless Networks	x		x					
MCpE 507	Advanced Broadband Communication System		x	x					
MCpE 508	Wide Area Network Technologies	x	x						
MCpE 509	Computer Networks Security	x	x						
ENGG 505	Industry - based Capstone Project 1					x		x	x
ENGG 506	Industry - based Capstone Project 2			x		x			x

SUGGESTED PROGRAM OF STUDY

Year 1		
First Semester		
Course Code	**Course Title**	**Credit Units**
ENGG 501	Computational Mathematics 1	3
MCpE 504	High Performance and Parallel Computer Architectures	3
MCpE 506	Artificial Intelligence with Python	3
	SUBTOTAL	**9**
Second Semester		
Course Code	**Course Title**	**Credit Units**
ENGG 502	Computational Mathematics 2	3
ENGG 503	Design of Experiments and Data Analytics	3
ENGG 504	Applied Materials Science and Engineering	3
	SUBTOTAL	**9**
Year 2		
First Semester		
Course Code	**Course Title**	**Credit Units**
MCpE 5xx	Elective 1	3
MCpE 5xx	Elective 2	3
	SUBTOTAL	**6**
Second Semester		
Course Code	**Course Title**	**Credit Units**
MCpE 5xx	Elective 3	3
MCpE 5xx	Elective 4	3
	SUBTOTAL	**6**
Comprehensive Examination		
Year 3		
First Semester		
Course Code	**Course Title**	**Credit Units**
ENGG 505	Industry - based Capstone Project 1	3
	SUBTOTAL	**3**
Second Semester		
Course Code	**Course Title**	**Credit Units**
ENGG 506	Industry - based Capstone Project 2	3
	SUBTOTAL	**3**
	TOTAL	**36**