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 Industrial Engineering (M.Engg.I.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 industrial 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 INDUSTRIAL 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**
ENGG 504	Applied Materials Science and Engineering	3
MIE 501	Design and Management of Workplace	3
MIE 502	Optimization in Production Systems	3
Elective Courses (12 units)		
Course Code	**Course Title**	**Credit Units**
	T1 Supply Chain Management	
MIE 503	Supply Chain Management	3
MIE 504	Management Information System	3
MIE 505	Logistics Management and Services	3
MIE 506	Special Problems Related to Supply Chain Management	3
	T2 Quality Systems Management	
MIE 507	Strategic Planning and Management	3
MIE 504	Management Information System	3
MIE 508	Six Sigma	3
MIE 509	Special Problems Related to Quality Management System	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					
ENGG 504	Applied Materials Science and Engineering	x			x					
MIE 501	Design and Management of Workplace		x	x		x				
MIE 502	Optimization in Production Systems		x	x		x				
	T1 Supply Chain Management									
MIE 503	Supply Chain Management					x		x		
MIE 504	Management Information System					x		x		
MIE 505	Logistics Management and Services					x		x		

Course Code	Course Title								
MIE 506	Special Problems Related to Supply Chain Management	x	x		x				
	T2 Quality Systems Management								
MIE 507	Strategic Planning and Management		x		x				
MIE 504	Management Information System		x		x				
MIE 508	Six Sigma		x		x				
MIE 509	Special Problems Related to Quality Management System	x	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
MIE 501	Design and Management of Workplace	3
MIE 502	Optimization in Production Systems	3
	SUBTOTAL	**9**
Second Semester		
Course Code	**Course Title**	**Credit Units**
ENGG 502	Computational Mathematics 2	3
ENGG 504	Applied Materials Science and Engineering	3
ENGG 503	Design of Experiments and Data Analytics	3
	SUBTOTAL	**9**
Year 2		
First Semester		
Course Code	**Course Title**	**Credit Units**
MIE 5xx	Elective 1	3
MIE 5xx	Elective 2	3
	SUBTOTAL	**6**
Second Semester		
Course Code	**Course Title**	**Credit Units**
MIE 5xx	Elective 3	3
MIE 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**