CURRICULUM
Bachelor of Industrial Technology
MECHATRONICS TECHNOLOGY
Academic Year 2018-2019
Reference: CMO No. 20 S. 2013 and Based on PACUIT Proposal

Curriculum Description

The Bachelor of Industrial Technology Major in Mechatronics Technology is a field of technology that includes a combination of mechanical, electronics, automation and computer technology. Mechatronics aim is a design process that unifies these technology fields. Students in mechatronics technology degree program will gain the technical know-how to install, repair and maintain various types of electromechanical equipment and industrial machines and be equipped to work with electromechanical and automated equipment to create industrial and commercial products. On-the-job training and project development study are generally required.

Program Objectives

1. Successfully practice as engineering technologies for the welfare of the society.
2. Demonstrate a high degree of professionalism at all times.

Program Outcomes

Graduates will have:
a. An appropriate mastery of the knowledge, techniques, skills and modern tools of technology
b. An ability to apply current knowledge and adapt to emerging applications of mathematics, science and technology
c. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes
d. An ability to apply creativity in the design of systems, components or processes appropriate to program objectives
e. An ability to function effectively on teams
f. An ability to identify, analyze and solve technical problems
g. An ability to communicate effectively in writing and in oral presentation
h. A recognition of the need for, and an ability to engage in lifelong learning
i. An ability to understand professional, ethical and social responsibilities
j. The knowledge of and respect for diverse backgrounds, contemporary societal and global issues concerning the profession
k. A commitment to quality, timeliness and continuous improvement

Curriculum Components

Code	Courses	Units	Total
	A. General Education Courses (CMO No. 20, series of 2013)		**36 units**
	B. Professional and Management Courses		**32 units**
PM 101	Occupational Health and Safety Management	2	
PM 102	Industrial Operation & Management Practices	3	
PM 103	Production and Operations Management	3	
PM 104	Technology Research I	3	
PM 105	Materials Technology Management	3	
PM 106	Professional Ethics	3	
PM 107	Technology Research II	3	
PM 108	Manufacturing Technology	3	
PM 109	Total Quality Management	3	
PM 110	Environmental Technology	3	
PM 111	Technopreneurship	3	
	C. Applied Sciences and Tools Courses		**28 units**
AST 111	Math for Technology	3	
AST 102	Applied Chemistry	3	
AST 105	Applied Physics	3	
AST 133	Production Drawing	2	
AST 106	Mechanics and Strength of Materials	3	
AST 135	Computer Aided Design	2	
AST 107	Thermodynamics	3	
AST 134	Computer Programming	3	

AST 110	Data Analytics	3	
AST 118	Communication System	3	
	D. Major Specialization Courses		**36 units**
MXT 111	Mechatronics Technology Workshop I (Benchwork, Pipe Fitting and Bending)	3	
MXT 122	Electrical and Electronic Principles	3	
MXT 211	Electric Motors and Controllers	3	
MXT 212	Digital Electronics and Microprocessor Control	3	
MXT 213	Fluid Power and Control	3	
MXT 221	Electropneumatics and Electrohydraulics	3	
MXT 222	Prorammable Logic Control	3	
MXT 223	Mechatronics Technology Workshop II (Lathe Machining and Shaping)	3	
MXT 311	Machine Elements	3	
MXT 312	Automatic Control System	3	
MXT 313	Mechatronics Technology Workshop III (CNC)	3	
MXT 321	Application of Industrial Robots for Advanced Manufacturing	3	
	E. Mandated Courses		**14 units**
PE 101	Physical Fitness, Gymnastics and Aerobics	2	
PE 102	Rhythmic Activities	2	
PE 103	Individual and Dual Sports	2	
PE 104	Team Sports	2	
NSTP 111	National Service Training Program 1	3	
NSTP 121	National Service Training Program 2	3	
	F. Supervised Industrial Training/OJT		**20 units**

SUMMARY	
Courses	**Number of Units**
General Education	36
Applied Sciences and Tool Courses	28
Professional and Management Courses	32
Specialization/Major Courses	36
Supervised Industrial Training/OJT	20
Mandated Courses (PE & NSTP)	14
TOTAL	**166**

Republic of the Philippines
BATANGAS STATE UNIVERSITY
Batangas City

COLLEGE OF INDUSTRIAL TECHNOLOGY
Bachelor of Industrial Technology (BIT)
Mechatronics Technology
Effective A.Y. 2018-2019

PROGRAM OF STUDY

FIRST YEAR
First Semester

COURSE NO.	COURSE TITLE	CREDIT		UNITS	NO. OF HRS.	PRE-REQUISITE
		LEC	LB/SW			
AST 111	Math for Technology	3	0	3	3	None
AST 102	Applied Chemistry	2	3	3	5	None
AST 105	Applied Physics	2	3	3	5	None
AST 133	Production Drawing	1	3	2	4	None
PM 101	Occupational Health and Safety Management	2	0	2	2	None
MXT 111	Mechatronics Technology Workshop I (Benchwork, Pipe Fitting and Bending)	1	6	3	7	None
MXT 122	Electrical and Electronic Principles	2	3	3	5	None
NSTP 1	National Service Training Program 1	3	0	3	3	None
PE 101	Physical Fitness, Gymnastics and Aerobics	2	0	2	2	None
	TOTAL			**24**	**31**	

FIRST YEAR
Second Semester

COURSE NO.	COURSE TITLE	CREDIT		UNITS	NO. OF HRS.	PRE-REQUISITE
		LEC	LB/SW			
Ged 101	Understanding the Self	3	0	3	3	None
Ged 102	Mathematics in the Modern World	3	0	3	3	None
Ged 106	Purposive Communication	3	0	3	3	None
Ged 109	Science Technology and Society	3	0	3	3	None
AST 106	Mechanics and Strength of Materials	2	3	3	5	AST 105
AST 135	Computer Aided Design	1	3	2	4	AST 133
AST 107	Thermodynamics	3	0	3	3	AST 105
NSTP 2	National Service Training Program 2	3	0	3	3	NSTP1
PE 102	Rhythmic Activities	2	0	2	2	PE101
	TOTAL			**25**	**24**	

SECOND YEAR
First Semester

COURSE NO.	COURSE TITLE	CREDIT		UNITS	NO. OF HRS.	PRE-REQUISITE
		LEC	LB/SW			
Ged 103	The Life and Works of Rizal	3	0	3	3	None
Ged 104	The Contemporary World	3	0	3	3	None
FILI 101	Kontekstwalisadong Komunikasyon sa Filipino	3	0	3	3	None
PM 102	Industrial Operation & Management Practices	3	0	3	3	None
AST 134	Computer Programming	2	3	3	5	None
MXT 211	Electric Motors and Controllers	2	3	3	5	MXT 123
MXT 212	Digital Electronics and Microprocessor Control	2	3	3	5	MXT 122
MXT 213	Fluid Power and Control	2	3	3	5	AST 107
PE 103	Individual and Dual Sports	2	0	2	2	PE102
	TOTAL			**26**	**34**	

SECOND YEAR
Second Semester

COURSE NO.	COURSE TITLE	CREDIT		UNITS	NO. OF HRS.	PRE-REQUISITE
		LEC	LB/SW			
FILI 102	Filipino sa iba't ibang Disiplina	3	0	3	3	None
Ged 107	Ethics	3	0	3	3	None
PM 103	Production and Operations Management	3	0	3	3	None
AST 110	Data Analytics	3	0	3	3	All Math Subjects
MXT 221	Electropneumatics and Electrohydraulics	2	3	3	5	MXT 212, MXT 213
MXT 222	Prorammable Logic Control	2	3	3	5	MXT 212, MXT 213
MXT 223	Mechatronics Technology Workshop II (Lathe Machining and Shaping)	1	6	3	7	MT 111
PE 104	Team Sports	2	0	2	2	PE103
	TOTAL			**23**	**31**	

THIRD YEAR						
First Semester						
COURSE NO.	**COURSE TITLE**	**CREDIT**		**UNITS**	**NO. OF HRS.**	**PRE-REQUISITE**
		LEC	**LB/SW**			
LITR 102	Asean Literature	3	0	3	3	None
Ged 105	Readings in Philippines History	3	0	3	3	None
PM 104	Technology Research I	3	0	3	3	All Major Subjects
PM 105	Materials Technology Management	3	0	3	3	All Major Subjects
PM 106	Professional Ethics	3	0	3	3	None
MXT 311	Machine Elements	2	3	3	5	MXT 223
MXT 312	Automatic Control System	2	3	3	5	MXT 222
MXT 313	Mechatronics Technology Workshop III (CNC)	1	6	3	7	MXT 223
	TOTAL			**24**	**32**	
THIRD YEAR						
Second Semester						
COURSE NO.	**COURSE TITLE**	**CREDIT**		**UNITS**	**NO. OF HRS.**	**PRE-REQUISITE**
		LEC	**LB/SW**			
Ged 108	Art Appreciation	3	0	3	3	None
PM 107	Technology Research II	3	0	3	3	Regular Standing
PM 108	Manufacturing Technology	**3**	**0**	**3**	**3**	Regular Standing
PM 109	Total Quality Management	**3**	**0**	**3**	**3**	Regular Standing
PM 110	Environmental Technology	3	0	3	3	Regular Standing
PM 111	Technopreneurship	3	0	3	3	Regular Standing
AST 118	Communication System	2	3	3	5	None
MXT 321	Application of Industrial Robots for Advanced Manufacturing	2	3	3	5	All Major Sujbject
	TOTAL			**24**	**28**	
FOURTH YEAR						
First Semester						
COURSE NO.	**COURSE TITLE**	**CREDIT**		**UNITS**	**NO. OF HRS.**	**PRE-REQUISITE**
		LEC	**LB/SW**			
OJT 1	Supervised Industrial Training 1 (540hrs)	0	10	10	540	MT 321, 3T 322
	TOTAL			**10**	**540**	
FOURTH YEAR						
Second Semester						
COURSE NO.	**COURSE TITLE**	**CREDIT**		**UNITS**	**NO. OF HRS.**	**PRE-REQUISITE**
		LEC	**LB/SW**			
OJT 2	Supervised Industrial Training 2 (540hrs)	0	10	10	540	OJT 1
	TOTAL			**10**	**540**	

** Regular Standing: No deficiencies on the previous semester.*

TOTAL UNITS: 166