



Republic of the Philippines
BATANGAS STATE UNIVERSITY
 The National Engineering University

Alangilan Campus
 Golden Country Homes, Alangilan, Batangas City, Philippines 4200
 Tel Nos.: (+63 43) 425-0139 local 2103

E-mail Address: cit.alangilan@g.batstate-u.edu.ph | Website Address: http://www.batstate-u.edu.ph

College of Engineering Technology

CURRICULUM

Bachelor of Electrical Engineering Technology

CMO Reference No. 86, S. 2017, CMO Reference No. 13, S. 2023; CMO Reference No. 4, S. 2018;
 CMO Reference No. 20, S. 2013; CMO Reference No. 39, S. 2021; CMO Reference No. 40, S. 2021
 ABET-ETAC Criteria for Accrediting Engineering Technology Programs 2023-2024

Curriculum Description

The Philosophy of the Electrical Engineering Technology Program is rooted in a commitment to equipping students with a comprehensive and practical understanding of electrical systems, devices, and emerging technologies. The program emphasizes a balance between theoretical knowledge and hands-on experience, fostering critical thinking and problem-solving skills essential for the dynamic field of electrical engineering. With a focus on innovation, ethics, and sustainability, our philosophy aims to empower students to apply their knowledge ethically and responsibly in designing, implementing, and maintaining electrical systems. Through a curriculum that adapts to technological advancements, industry needs, and global challenges, we strive to produce graduates who are not only proficient in the latest tools and techniques but also possess a broader understanding of the societal impact of electrical engineering. Our program fosters a learning environment that encourages collaboration, creativity, and continuous learning, preparing students to become versatile professionals capable of contributing to the ever-evolving landscape of electrical engineering technology.

Program Educational Objectives

PEO 1	Title: Successful Professional Practice	
	Description: Successfully practice as electrical engineering technologists for the welfare of the society.	
	KPI 1	Graduates are involved in operations planning with contribution towards improving processes.
	KPI 2	Graduates are able to undertake technology activities in a way that contributes to sustainable development
	KPI 3	Graduates are actively involved in designing of new systems and processes and/or providing consultancy and advice to either internal or external customers.
PEO 2	Title: Ethics and Professionalism	
	Description: Demonstrate a high degree of ethics and professionalism at all time	
	KPI 1	Graduates have planned for effective project implementation through managing the planning, budgeting and organization of tasks, people, and resources.
	KPI 2	Graduates have managed teams and developed staff to meet changing technical and managerial needs.
	KPI 3	Graduates are developing or have started a company or partnership business.
	KPI 4	Graduates have managed continual quality improvement.



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PEO 3	Title: Technological Advancement	
	Description: Contribute to the technological advancement for the welfare of the humanity	
	KPI 1	Graduates have actively contributed to the development of new technologies, processes and/or methodologies or improvements in existing ones
	KPI 2	Graduates participated in research and development projects aimed at technological innovations
	KPI 3	Graduates have actively engaged with stakeholders including communities and end-users, to understand and address real-world challenges
KPI 4	Graduates communicate and collaborate with interdisciplinary teams to ensure the societal impact of their technological contributions.	

Institutional Graduate Attributes

1. **Knowledge Competence** - Demonstrate a mastery of the fundamental knowledge and skills required for functioning effectively as a professional in the discipline, and an ability to integrate and apply them effectively to practice in the workplace.
2. **Creativity and Innovation** - Experiment with new approaches, challenge existing knowledge boundaries and design novel solutions to solve problems.
3. **Critical and Systems** - Identify, define, and deal with complex problems pertinent to the future professional practice or daily life through logical, analytical and critical thinking.
4. **Communication** - Communicate effectively (both orally and in writing) with a wide range of audiences, across a range of professional and personal contexts, in English and Pilipino
5. **Lifelong learning** – Identify own learning needs for professional or personal development; demonstrate an eagerness to take up opportunities for learning new things as well as the ability to learn effectively on their own.
6. **Leadership, teamwork, and Interpersonal Skills** - Function effectively both as a leader and as a member of a team; motivate and lead a team to work towards goal; work collaboratively with other team members; as well as connect and interact socially and effectively with diverse culture.
7. **Global Outlook** - Demonstrate an awareness and understanding of global issues and willingness to work, interact effectively and show sensitivity to cultural diversity.
8. **Social and National Responsibility** - Demonstrate an awareness of their social and national responsibility; engage in activities that contribute to the betterment of the society; and behave ethically and responsibly in social, professional and work environments.



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Curriculum Components

Courses			Units	Total
Math and Sciences Courses				19 units
1	MathET140	Comprehensive Math (Algebra, Trigonometry, Analytic Geometry)	0	
2	MATH101	Differential Calculus	4	
3	MATH102	Integral Calculus	4	
4	AI 102	Probability and Statistics for AI	3	
5	SciET141	Chemistry	4	
6	PHY101	Physics for BET	4	
Applied Courses				32 units
1	AI 103	Machine Learning and Neural Networks	3	
2	CpET140	Computer Programming	3	
3	BET141	Production Drawing	3	
4	BET142	Computer Aided Design	2	
5	BET143	Occupational Health and Industrial Safety Management	3	
6	BET 241	Materials Selection & Testing	3	
7	BET 341	Quality Control and Assurance	3	
8	BET 342	Technopreneurship for BET	3	
9	BET344	Engineering Technology Ethics	3	
10	BET 345	Industrial Operation & Management Practices	3	
11	BET 346	Engineering Technology Management	3	
Professional Courses				65 units
1	ELET 141	Circuits Analysis I	3	
2	ELET 142	Electrical Codes, Safety, and Standards	2	
3	ELET 143	Circuits Analysis II	3	
4	ELET 144	Residential and Commercial Power System and Design	3	
5	ELXET 142	Electronic Devices	3	
6	ELET 241	Energy Conversion	3	
7	ELET 242	Electromagnetic Fields and Applications	3	
8	ELXET 143	Digital Electronics	3	
9	ELET 243	Motor Control and Sequential Control	3	
10	MXET 242	Electro-pneumatics and Electro-hydraulics	3	
11	ELXET 342	Power Electronics	3	
12	ELET 341	Electrical Power Systems	3	
13	ELXET 242	Analog and Digital Signal Analysis	3	
14	ELET 342	Microcontroller and Programmable Logic Controllers	3	
15	ELET 343	Data Communication and Protocols	3	
16	MXET 342	Control Systems	3	
17	BET343	Technology Capstone Project 1	3	
18	BET347	Technology Capstone Project 2	3	
19	BET441	Supervised Industrial Training 1	6	
20	BET442	Supervised Industrial Training 2	6	
Required General Education				24 units
1	GEd 101	Understanding the Self	3	
2	GEd 102	Mathematics in the Modern World	3	
3	GEd 104	The Contemporary World	3	
4	GEd 105	Readings in Philippine History	3	



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5	GEd 106	Purposive Communication	3	
6	GEd 107	Ethics	3	
7	GEd 108	Art Appreciation	3	
8	GEd 109	Science, Technology, and Society	3	
Mandated Courses				3 units
1	GEd 103	Life and Works of Rizal	3	
General Education Electives				9 units
1	AI 101	Linear Algebra	3	
2	GAD101	Gender and Society	3	
3	ES101	Environmental Science	3	
4	Litr102	Asean Literature	0	
PATHFit & NSTP				14 units
1	PATHFit 1	Movement Competency Training	2	
2	PATHFit 2	Exercise-based Fitness Activities	2	
3	PATHFit 3	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor, and Adventure Activities 1	2	
4	PATHFit 4	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor, and Adventure Activities 2	2	
5	NSTP 111	National Service Training Program 1	3	
6	NSTP 121	National Service Training Program 2	3	
Grand Total				166 units

SUMMARY	
Courses	Number of Units
Math and Sciences Courses	19
Applied Courses	32
Professional Courses	65
Required General Education	24
Mandated Courses	3
General Education Electives	9
PATHFit & NSTP	14
TOTAL	166



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PROGRAM OF STUDY

FIRST YEAR						
FIRST SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
ELET 141	Circuit Analysis I	2	3	3		
ELET 142	Electrical Codes, Safety, and Standards	2	0	2		
GEEd 101	Understanding the Self	3	0	3		
GEEd 102	Mathematics in the Modern World	3	0	3		
SciET141	Chemistry	3	3	4		
BET141	Production Drawing	1	6	3		
MathET140	Comprehensive Math (Algebra, Trigonometry, Analytic Geometry)	3	0	0		
PATHFit 1	Movement Competency Training	2	0	2		
NSTP 111	National Service Training Program 1	3	0	3		
	Total	22	12	23		

FIRST YEAR						
SECOND SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
ELET 143	Circuit Analysis II	2	3	3	ELET 141	
ELET 144	Residential and Commercial Power System and Design	1	6	3	ELET 141&142	
ELXET 142	Electronic Devices	2	3	3		
MATH101	Differential Calculus	4	0	4	MathET140	
PHY101	Physics for BET	3	3	4	MathET140	
BET142	Computer Aided Design	1	3	2	BET141	
PATHFit 2	Exercise-based Fitness Activities	2	0	2	PATHFit 1	
NSTP 121	National Service Training Program 2	3	0	3	NSTP 111	
	Total	18	18	24		

FIRST YEAR						
MIDTERM SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
GEEd 103	Life and Works of Rizal	3	0	3		
GEEd 104	The Contemporary World	3	0	3		
BET 143	Occupational Health and Industrial Safety Management	3	0	3		
	Total	9	0	9		



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SECOND YEAR						
FIRST SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
DET 241	Architectural Drafting 1	2	6	3	DET 143	
DET 242	Computer Aided Drafting 1	2	3	3	DET 143	
AI 101	Linear Algebra with AI	3	0	3		
GEEd 105	Readings in Philippine History	3	0	3		
MATH102	Integral Calculus	4	0	4	MATH101	
CpET140	Computer Programming	2	3	3		
PATHFit 3	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor, and Adventure Activities 1	2	0	2	PATHFit 1 & 2	
	Total	18	12	21		

SECOND YEAR						
SECOND SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
DET 243	Architectural Drafting 2	2	6	3	DET 241	
DET 244	Basic Construction Estimating and Costing	3	0	3	DET 241	
DET 245	Outdoor Sketching	2	3	3	DET 142	
GAD101	Gender and Society	3	0	3		
BET 241	Materials Selection & Testing	3	0	3		
GEEd 106	Purposive Communication	3	0	3		
AI 102	Probability and Statistics for AI	3	0	3	MATH 102	
PATHFit 4	Choice of Dance, Sports, Martial Arts, Group Exercise, Outdoor, and Adventure Activities 2	2	0	2	PATHFit 1 & 2	
	Total	21	9	23		



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THIRD YEAR						
FIRST SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
AI 103	Machine Learning and Neural Networks	2	3	3	AI 101, AI 102, CpET 140	
DET 341	Machine Elements Drafting	2	3	3	DET 143	
DET 342	Structural Drafting	2	3	3	DET 243	
DET 343	Modern Manufacturing 1	2	3	3	DET 242	
GE 107	Ethics	3	0	3		
GE 108	Art Appreciation	3	0	3		
BET 341	Quality Control and Assurance	3	0	3		
BET 342	Technopreneurship for BET	3	0	3		
BET 343	Technology Capstone Project 1	2	3	3	DET 243, DET 244	
	Total	22	15	27		

THIRD YEAR						
SECOND SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
DET 344	Computer Aided Drafting 2	2	3	3	DET 242	
DET 345	Basic Commercial Arts and Desktop Publishing	2	3	3	DET 142	
DET 346	Modern Manufacturing 2	2	3	3	DET 343	
GE 109	Science, Technology and Society	3	0	3		
ES 101	Environmental Science	3	0	3		
BET 344	Engineering Technology Ethics	3	0	3		
BET 345	Industrial Operation & Management Practices	3	0	3		
BET 346	Engineering Technology Management	3	0	3		
BET 347	Technology Capstone Project 2	2	3	3	BET343	
DET 344	Computer Aided Drafting 2	2	3	3	DET 242	
	Total	23	12	27		



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FOURTH YEAR						
FIRST SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
BET 441	Supervised Industrial Training 1	0	540	6	BET347	
	Total	0	540	6		

FOURTH YEAR						
SECOND SEMESTER						
Course Code	Course Title	Lec	Lab	Credit Units	Pre-requisite(s)	Co-requisite(s)
BET 442	Supervised Industrial Training 2	0	540	6	BET 441	
	Total	0	540	6		