



S.2. The syllabus includes a list of suggested readings and references of print and electronic resources within the last 10 years.



"For Nation's Greater Heights"

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COLLEGE OF ENGINEERING AND INFORMATION TECHNOLOGY
City Campus
Second Semester, Academic Year 2021-2022

Outcomes Based-Education (OBE) Syllabus in EE 202
ELECTRICAL CIRCUITS 2
Course Credit: 4.0unitslec.(108hrs)

Institutional Vision, Mission, and Goals

Vision:

An innovative and technologically-advanced State College in Caraga.

Mission:

To provide relevant,

- a. high quality and sustainable instruction,
- b. research, production and extension programs and
- c. services within a culture of credible and responsive institutional governance.

Goals:

1. Foster application of the discipline and provide its learner with industry-based training and education particularly in engineering, technology and fisheries.
2. Conduct and utilize studies for the development of new products, systems and services relevant to Philippine life and of the global village.
3. Promote transfer of technology and spread useful technical skills, thus empowering its learners and their activities.

SSCT Core Values

Service-Oriented Socially Responsive Committed Transformational

SSCT Quality Policy

Surigao State College of Technology provides quality instruction, research, extension programs and production services to satisfy its customers by responding to their needs and expectations and continually improving its quality management system.



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Institutional Graduate Attributes (IGA)

- :
- Visionary Leader
 - Effective Communicator
 - Competent Technologist
 - Self-Directed Lifelong Learner

Program Goals

The Electrical Engineering program aims to design and apply the generation, transmission, and distribution of electrical energy to produce competent engineers that exhibit positive work ethics and flexibility in work conditions for the development of Caraga.

Program Educational Objectives (PEO) and Relationship to Institutional Mission

Program Educational Objectives (PEO)	Mission		
	a	b	c
EE-PEO1. Demonstrate professionalism in electrical engineering and apply professional ethics thru communication and collaboration.	/	/	/
EE-PEO2. Use appropriate techniques, resources, and modern tools necessary for analysis, design, and modelling of complex electrical systems	/	/	/
EE-PEO3. Plan, lead, and implement designated tasks, interact with other engineering professionals, and take leadership roles in electrical engineering organization.	/	/	/
EE-PEO4. Engage in lifelong learning able to discover new opportunities for continuing personal and professional development in electrical engineering	/	/	/

Program Outcomes (PO) and Relationship to Program Educational Objectives (PEO)

Program Outcomes (PO)	Program Educational Objectives (PEO)			
	1	2	3	4
EE-POa. Apply knowledge of mathematics and sciences to solve complex engineering problems				
EE-POb. Develop and conduct appropriate experimentation, analyze and interpret data	/	/	/	/
EE-POc. Design a system, component, or process to meet desired needs within				



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realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards				
EE-POd.Function effectively on multi-disciplinary and multi-cultural teams that establish goals, plan tasks, and meet deadlines				
EE-POe.Identify, formulate, and solve complex problems in electrical engineering	/	/	/	/
EE-POf.Recognize ethical and professional responsibilities in engineering practice				
EE-POg.Communicate effectively with a range of audiences	/	/	/	/
EE-POh.Understand the impact of engineering solutions in a global, economic, environmental, and societal context				
EE-POi.Recognize the need for additional knowledge and engage in lifelong learning				
EE-POj.Articulate and discuss the latest developments in the field of electrical engineering				
EE-POk.Apply techniques, skills, and modern engineering tools necessary for electrical engineering practice				
EE-POl.Demonstrate knowledge and understanding of engineering and management principles as a member and/or leader in a team to manage projects in multidisciplinary environments				

Course Description

The course deals with sinusoidal steady-state analysis in the frequency domain; AC circuit power analysis; analysis of polyphase circuits and magnetically-coupled circuits; frequency response; per unit system and symmetrical components; and two-port networks

DACUM Main Duties (DMD)

- EE-DMD1. Diagnose electrical problems using the electrical diagrams or blue print (as built electrical plans)
- EE-DMD2. Install, repair, and maintenance electrical power systems(building wiring, controls, electrical machines and transformers)
- EE-DMD3. Facilities Manager
- EE-DMD4. Power Plant Manager
- EE-DMD5. Electrical Researchers, Professor and Faculty



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Course Outcomes (CO) and Relationship to Program Outcomes (PO)

Program Outcome (PO) / Level	Course Outcomes (CO)	Assessment Task (CO-AT)	DACUM Links				
			1	2	3	4	5
EE-POb(Enabling).Develop and conduct appropriate experimentation, analyze and interpret data	EE201-CO1: Develop and conduct electrical engineering experimentations and then analyze and interpret the data.	Students conduct electrical engineering experiments. These experiments serve as a group activity where they will analyze and interpret data. Criteria – Functionality and lab report Total Points: 100 points	/	/			/
EE-POe(Enabling). Identify, formulate, and solve complex problems in electrical engineering.	EE201-CO2: Calculate complex electrical engineering problems related to electric circuit theory.	Students calculate sets of electrical engineering problems using the electric circuit theory concepts. Criteria – 70% correct answers and solutions Total Points: 100 points	/				/
EE-POg(Enabling).Communicate effectively with a range of audiences	EE201-CO3: Communicate effectively with the team, group or other range of audiences when conducting experiments and solving problems in electrical engineering.	Students create a group project and present them in the class. Criteria – creativity, functionality, delivery Total Points: 100 points			/	/	/

Course Outcomes (CO) and Relationship to Intended Learning Outcomes (ILO)

Course Outcomes (CO)	Intended Learning Outcomes (ILO)
EE201-CO1: Develop and conduct electrical engineering experimentations and then analyze	EE202-ILO1: Apply the circuit theorems and techniques used in DC to analyse AC circuits.(EE201-CO2)



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<p>and interpret the data.</p> <p><i>EE201-CO2:</i> Calculate complex electrical engineering problems related to electric circuit theory.</p> <p><i>EE201-CO3:</i> Communicate effectively with the team, group or other range of audiences when conducting experiments and solving problems in electrical engineering.</p>	<p><i>EE202-ILO2:</i> Recognize the essential concepts used in AC power analysis. (EE201-CO1)</p> <p><i>EE202-ILO3:</i> Calculate electrical engineering problems related to AC power analysis. (EE201-CO2)</p> <p><i>EE202-ILO4:</i> Analyse balanced and unbalanced three-phase circuits. (EE201-CO1)</p> <p><i>EE202-ILO5:</i> Analyse magnetically coupled circuits. (EE201-CO1)</p> <p><i>EE202-ILO6:</i> Analyse the concepts of transfer function, series and parallel resonance, and basic filter design. (EE201-CO1)</p> <p><i>EE202-ILO7:</i> Recognize the concept of per-unit and understand its significance in power system analysis. (EE201-CO2)</p> <p><i>EE202-ILO8:</i> Recognize the concept of symmetrical components in the analysis of unbalanced three-phase power system. (EE201-CO2)</p> <p><i>EE202-ILO9:</i> Recognize the various two-port parameters to analyse electrical/electronic circuits. (EE201-CO3)</p>
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Detailed Course Content

Intended Learning Outcomes (ILO)	Topics	Time Frame	Teaching and Learning Activities(TLA)	Assessment Tasks (ILO-AT)	Target	Resources	Values Integration	Remarks
<i>EE202-ILO1:</i> Apply the circuit theorems and techniques used in DC	1. SINUSOIDAL STEADY-STATE ANALYSIS	10 hrs.	Learning Module 1 <i>Asynchronous</i>	Problem analysis quiz and assignment	70% of the students shall have	Learning module and videos on	Core Value: <i>Transformational</i>	



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to analyse AC circuits.(EE201-CO2)	<ol style="list-style-type: none"> 1.1. <i>Nodal and Mesh Analysis</i> <ol style="list-style-type: none"> 1.1.1 <i>Nodal Analysis</i> 1.1.2 <i>Mesh Analysis</i> 1.2. <i>Superposition Theorem</i> 1.3. <i>Source Transformation</i> 1.4. <i>Thevenin's and Norton's Theorems</i> 			on sinusoidal steady-state analysis.	a rating of at least 3.0	sinusoidal steady-state analysis Multisim	Sub-Value: <i>Adaptive application of circuit techniques and theorems to analyse ac circuits</i>	
<p>EE202-ILO2: Recognize the essential concepts used in AC power analysis.(EE201-CO1)</p> <p>EE202-ILO3: Calculate electrical engineering problems related to AC power analysis.(EE201-CO2)</p>	2. AC POWER ANALYSIS <ol style="list-style-type: none"> 2.1. <i>Instantaneous and Average Power</i> 2.2. <i>Maximum Average Power Transfer</i> 2.3. <i>Effective or RMS Value</i> 2.4. <i>Apparent Power and Power Factor</i> 2.5. <i>Complex Power</i> 2.6. <i>Conservation of AC Power</i> 2.7. <i>Power Factor Correction</i> 	14 hrs.	Learning Module 2 <i>Asynchronous</i>	Problem analysis quiz and assignment on ac power analysis.	70% of the students shall have a rating of at least 3.0	Learning module and videos on ac power analysis Multisim	Core Value: <i>Committed</i> Sub-Value: <i>Dedicated analysis of ac power</i>	
EE202-ILO4: Analyse	3. ANALYSIS OF	14 hrs.	Learning Module 3	Problem	70% of the	Learning	Core Value:	



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balanced and unbalanced three-phase circuits.(EE201-CO1)	POLYPHASE CIRCUITS 3.1. <i>Balanced Three-Phase Voltages</i> 3.2. <i>Balanced Wye-Wye Connection</i> 3.3. <i>Balanced Wye-Delta Connection</i> 3.4. <i>Balanced Delta-Delta Connection</i> 3.5. <i>Balanced Delta-Wye Connection</i> 3.6. <i>Power in a Balanced System</i> 3.7. <i>Unbalanced Three-Phase Systems</i> 3.8. <i>Three-Phase Power Measurement</i>		<i>Asynchronous</i>	analysis quiz and assignment on three-phase circuits	students shall have a rating of at least 3.0	module and videos on the analysis of polyphase circuits Multisim	<i>Committed</i> Sub-Value: <i>Perseverant in the analysis of polyphase circuits</i>	
EE202-ILO5: Analyse magnetically coupled circuits.(EE201-CO1)	4. ANALYSIS OF MAGNETICALLY-COUPLED CIRCUITS 4.1. <i>Mutual Inductance</i> 4.2. <i>Energy in a Coupled Circuit</i> 4.3. <i>Linear Transformers</i> 4.4. <i>Ideal</i>	12 hrs.	Learning Module 4 <i>Asynchronous</i>	Problem analysis quiz and assignment on magnetically-coupled circuits	70% of the students shall have a rating of at least 3.0	Learning module and videos on the analysis of magnetically-coupled circuits. Multisim	Core Value: <i>Transformational</i> Sub-Value: <i>Adaptive application of mutual inductance in the analysis of magnetically-coupled circuits</i>	



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	4.5. <i>Transformers Ideal Autotransformer s</i>							
MIDTERM EXAMINATION– 2.0 Hrs.								
<i>EE202-ILO6: Analyse the concepts of transfer function, series and parallel resonance, and basic filter design.(EE201-CO1)</i>	5. FREQUENCY RESPONSE 5.1. <i>Transfer Function</i> 5.2. <i>Series Resonance</i> 5.3. <i>Parallel Resonance</i> 5.4. <i>Basic Filter Design</i>	10 hrs.	Learning Module 5 <i>Asynchronous</i>	Problem analysis quiz on frequency response	70% of the students shall have a rating of at least 3.0	Learning module and videos on frequency response	Core Value: <i>Committed</i> Sub-Value: <i>Determined analysis of the frequency response of electrical circuits</i>	
<i>EE202-ILO7: Recognize the concept of per-unit and understand its significance in power system analysis.(EE201-CO2)</i>	6. PER UNIT SYSTEM 6.1. <i>Single-Phase Systems</i> 6.2. <i>Change of Base</i> 6.3. <i>Three-Phase Systems</i>	14 hrs.	Learning Module 6 <i>Asynchronous</i>	Problem analysis quiz and assignment on per-unit system	70% of the students shall have a rating of at least 3.0	Learning module and videos on per-unit system	Core Value: <i>Transformational</i> Sub-Value: <i>Optimistic application of per unit system in the analysis of power systems</i>	
<i>EE202-ILO8: Recognize the concept of symmetrical components in the analysis of unbalanced three-phase power system.(EE201-CO2)</i>	7. SYMMETRICAL COMPONENTS OF UNBALANCED 3-PHASE VOLTAGES AND CURRENTS	14 hrs.	Learning Module 7 <i>Asynchronous</i>	Problem analysis quiz and assignment on symmetrical components	70% of the students shall have a rating of at least 3.0	Learning module and videos symmetrical components.	Core Value: <i>Transformational</i> Sub-Value: <i>Adaptive analysis of unbalanced 3-phase voltages</i>	



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							<i>and currents</i>	
<i>EE202-ILO9: Recognize the various two-port parameters to analyse electrical/electronic circuits.(EE201-CO3)</i>	8. ANALYSIS OF TWO-PORT NETWORKS 8.1. <i>Impedance Parameters</i> 8.2. <i>Admittance Parameters</i> 8.3. <i>Hybrid Parameters</i> 8.4. <i>Transmission Parameters</i> 8.5. <i>Relationships Between Parameters</i> 8.6. <i>Network Interconnection</i>	12 hrs.	Learning Module 8 <i>Asynchronous</i>	Problem analysis quiz on two-port networks	70% of the students shall have a rating of at least 3.0	Learning module and videos on analysis of two-port networks.	Core Value: <i>Committed</i> Sub-Value: <i>Determined application of two-port networks to analyse electrical circuits</i>	
FINAL EXAMINATION – 2.0 Hrs.								

References:

Matthew N.O. Sadiku, Sarthan M. Musa & Charles K. Alexander. *Applied Circuit Analysis*. McGraw-Hill International Edition. New York : McGraw-Hill, ©2013
 Jasper Harrison (2019). *Engineering Circuit Analysis*. New York : NY Research Press, (2019)
 J. Duncan Glover, Thomas J. Overbye, & Mulukutla S. Sarma (2017). *Power System Analysis & Design*. 6th ed. Cengage Learning
 James S. Kang. *Electric Circuits*. Australia : Cengage Learning, ©2018
 Pieter Schavemaker & Lou van der Sluis. *Electrical Power System Essentials*. 2nd ed. Chichester, West Sussex : Wiley, ©2017.
 Tarlok Singh. *Transmission and Distribution (Electrical Power I)*. 2nd ed. New Delhi, India : S.K. Kataria and Sons, 2018

Course Requirements:

- Laboratory Reports(CO-AT1)
- Portfolio of solved Problems(CO-AT2)
- Group Project(CO-AT3)
- Quizzes and Assignments



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- Midterm and Final exams

Course Evaluation:

<u>Criteria</u>	<u>Lecture Grade</u>
➤ Quizzes and online outputs/interaction (ILO-AT)	20%
➤ Performance Tasks (CO-AT)	40%
➤ Major Exams (Midterm and Final)	40%
TOTAL	100%

Grade Computation: $\frac{\text{Midterm Grade} + \text{Final Grade}}{2} = \text{Average Grade}$

<u>Grade Point</u>	<u>Description</u>
1.0	Excellent
1.5 – 1.1	Very Good
2.0 – 1.6	Highly Satisfactory
2.5 – 2.1	Good
2.9 – 2.6	Satisfactory
3.0	Passing
5.0	Failed due to poor performance, absences, withdrawal without notice
DRP	Dropped with approved dropping slip
INC	Incomplete requirements but w/ passing class standing. INC is for non-graduating students only
NG	No Grade

Source: SSCT Student Handbook

Course Policies:

1. Attendance shall be checked in every class session in the Google Meet. This is to monitor the absences incurred by the students in terms of the allowable number of absences for a course as stipulated in the Student Handbook.
2. During online classes, video camera shall be turned on all the time and microphone shall be turned off. The microphone shall be unmuted only if the student's name is called to participate in class discussion.
3. Major examinations in multiple-choice type shall be done online. For problem solving type, detailed solutions shall be written legibly in separate sheets of paper



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and shall be converted to pdf form prior to submission.

4. Cheating in major examinations which include attempts to defraud, deceive, or mislead the instructor in arriving at an honest assessment shall entail zero score.
5. Plagiarism which is a form of cheating that involves presenting the ideas or work of another as one's own work shall entail zero score.
6. Projects shall be submitted on or before the deadline. Students who submit unsatisfactory projects shall be given the chance to improve their works on the condition that they resubmit the revised outputs on the date set by the instructor. Non-submission of a project on the deadline shall entail zero score.
7. An INC grade shall be given to students who fail to submit the course requirements of at least 95% of the projects and quizzes or failure to take the major examinations.

Revision History:

Revision No.	Revised by	Date of Revision	Date of Implementation	Highlight of Revision
1	Engr. Vernon V. Liza	July 19, 2021	August 23, 2021	Followed OBTL Format as per CMO #101 S. 2017
2	Engr. Vernon V. Liza	January 25, 2021	February 7, 2021	DACUM Workshop vis-à-vis CMO No. 101 S. 2017

Prepared by:


ENGR. VERNON V. LIZA
 Guest Lecturer


Date: 1-25-2022

Checked and reviewed by:


ENGR. VICENTE Z. DELANTE, MEng'g
 Program Chair, BSEE

Date: 1-29-2022

Noted by:


ENGR. ROBERT R. BACARRO, MECE, MBA
 Dean, CEIT

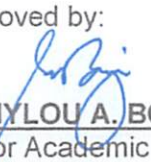
Date: 1-28-2022

Recommended by:


RONITA E. TALINGTING, PhD
 Campus Director

Date: 1-31-2022

Approved by:


EMMYLOU A. BORJA, EdD
 VP for Academic Affairs

Date: 1-31-2022



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Bachelor of Science in Electrical Engineering (BSEE)

As of May 2022

SUBJECT/COURSE TITLE	Call #	TITLE #	TITLE	AUTHOR	PUBLICATION DATE	VOLUMES
INTRODUCTION TO ELECTRICAL ENGINEERING	620	1	Basic Electrical Engineering	J.P. Gupta	2019	1
	620	2	Basic Electrical Installation work	Linsley	2019	1
	CIR 621.31924 M917	3	Electrical Wiring: Residential	Mullin	2018	2
	CIR 621.31924 Si472	4	Electrical Wiring: Commercial	Mullin	2018	1
	CIR 621.381 B2921	5	Basic Electrical and Electronics Engineering	3G E-Learning	2017	1
						TOTAL
ELECTRICAL CIRCUITS 1	CIR 621.3192 H245	1	Engineering Circuit Analysis	Jasper Harrison	2019	1
	620	2	Schaum's Outline Electric Circuit	Mahmood Nahvi	2018	1
	CIR 621.319 K131	3	Electric Circuit	Kang	2018	1
	eBook	4	CMOS Integrated circuit simulation with LTSPICE	Bruun, Erik	2017	1
	eBook	5	CMOS Integrated circuit simulation with LTSPICE : Solutions	Bruun, Erik	2017	1
					TOTAL	5
ELECTRIC CIRCUITS 2	CIR 621.3192 H245	2	Engineering Circuit Analysis	Jasper Harrison	2019	1
	CIR 621.319 K131	1	Electric Circuit	Kang	2018	1
	620	3	Schaum's Outline Electric Circuit	Mahmood Nahvi	2018	1
	eBook	4	CMOS Integrated circuit simulation with LTSPICE	Bruun, Erik	2017	1
	eBook	5	CMOS Integrated circuit simulation with LTSPICE : solutions	Bruun, Erik	2017	1
					TOTAL	5
ELECTRONIC CIRCUITS: DEVICES AND ANALYSIS	CIR 670.427 F989	1	Future Manufacturing Systems	Randrianarisoa	2019	1
	CIR 670 In285	2	Industrial Machining Technology	3G E-Learning	2019	1
	620	3	Sensors for Mechatronics	Regtien	2018	1
	CIR 670 B561	4	DEGARMOS MATERIALS AND PROCESSES IN MANUFACTURING	J.T.BLACK	2017	1
	CIR 629.892 In891	5	Introduction to Robotics	Galang	2017	1
					TOTAL	5
	620	1	Principles of Electromagnetism	Burgess, O.	2019	1
	620	2	Schaum's Outlines Electromagnetics	M. Nahvi	2019	1

ELECTROMAGNETICS	620	3	Electromagnetism: Theory, Concepts and Applications	E. Murray	2018	1
	620	4	THE PHYSICS AND MATHEMATICS OF ELECTROMAGNETICS WAVE PROPAGATION IN CELLULAR WIRELESS COMMUNICATION	TAPAN K. SARKAR	2018	1
	CIR 621.3192 R837	5	Circuit Oriented Electromagnetic Modeling Using the PEEC Techniques	Ruehli, Antonini & Jiang	2017	1
	CIR 530.141 N843	6	Conceptual Electromagnetics	Notaros, Branislav M.	2017	1
	CIR 530.141 Sa163	7	Electromagnetic Field Theory	S. Saeed	2017	1
	CIR 530.141 EI256	8	Electromagnetic Theory with CD	3G E-Learning	2017	1
	CIR 539.2 Is36	9	Electromagnetic Wave Propagation, Radiation, and Scattering: From Fundamentals to Applications	Akira Ishimaru	2017	1
						TOTAL

NUMERICAL METHODS AND ANALYSIS	500	1	Numerical Methods	A. Goyal	2020	1
	500	2	Numerical methods Using MATLAB	George Lindfield	2019	1
	eBook	3	An introduction to numerical methods: a MATLAB approach	Guenther, Ronald B	2019	1
	500	4	Applied and Numerical Methods	M. Tattari	2018	1
	500	5	APPLIED NUMERICAL METHODS WITH MATLAB FOR ENGINEERS AND SCIENTISTS	STEVEN C. CHAPRA	2018	1
						TOTAL

LOGIC CIRCUITS AND SWITCHING THEORY	eBook	1	Introduction to Logic Circuits & Logic Design with Verilog	Brock J. LaMeres	2019	1
	eBook	2	INTRODUCTION TO LOGIC CIRCUITS & LOGIC DESIGN WITH VHDL	LAMERES, BROCK	2019	1
	eBook	3	Hybrid System Identification: Theory and Algorithms for Learning Switching Models	Fabien Lauer	2019	1
	eBook	4	Introduction to logic circuits and logic design with Verilog	LaMeres	2017	1
	eBook	5	Power Switching Components: Theory, Applications and Future Trends	Kaveh Niayesh	2017	1
	CIR 621.395 N239	6	Digital electronics 2 : sequential and arithmetic logic circuits	Ndjountche	2016	1
						TOTAL

INDUSTRIAL ELECTRONICS	CIR 670.427 F989	1	Future Manufacturing Systems	Randrianarisoa	2019	1
	CIR 670 In285	2	Industrial Machining Technology	3G E-Learning	2019	1
	CIR 670.4272 D619	3	Industrial Robotics	K. Dinwiddie	2019	1
	CIR 621.381 L533	4	The Crafty Kid's guide to DIY Electronics : 20 Fun Projects for Makers, Crafters, and Everyone in Between	Helen Leigh	2019	1
	600	5	Power Electronics with MATLAB	Kumar, Kalaiarasi, & Maheswari	2018	1
	CIR 621.317 G155	6	Industrial Power Electronics	P. Ganguly	2017	1
	600	7	Advanced Power Electronics with CD	3G E-Learning	2017	1
	CIR 670 B561	8	DEGARMOS MATERIALS AND PROCESSES IN MANUFACTURING	J.T.BLACK	2017	1
	CIR 629.892 In891	9	Introduction to Robotics	Galang	2017	1
						TOTAL

FUNDAMENTALS OF ELECTRONIC COMMUNICATIONS	CIR 621.382 EI258	1	ELECTRONICS AND COMMUNICATIONS ENGINEERING	KUMAR	2020	1
	600	2	Modern Concepts of Communication System	U. Mishra	2019	1
	CIR 384.51 K156	3	Satellite communication	S. Katiyar	2019	1
	CIR 621.382 II688	4	Illustrated Handbook of Telecommunications Engineering	3G E-Learning	2018	1
	600	5	Introduction to Telecommunications	Smith	2017	1
	600	6	Fundamentals of Radar sonar, and navigation engineering: with guidance	K.K. Sharma	2017	1
	621.382076 G959	7	An Integrated Course in Electronics & Communications Engineering	Gupta	2017	1
	CIR 384.5 Ad951	8	Advance Relay Technologies in Next Generation Wireless communications	Krikidis	2016	1
					TOTAL	8

ELECTRICAL MACHINES 1	CIR 621 C812	1	Core Concepts in Engineering: Mechanical Engineering with CD	3G E-Learning	2019	1
	CIR 621.46 EI76	2	Fundamentals of Electric Drives	El-Sharkawi	2019	1
	CIR 621.8 T149	3	Mechanics of Mechanisms and Machines	Talpasanu	2019	1
	620	4	Mechatronics Technology	3G E-Learning	2019	1
	CIR 621 T343	5	Theory, Practice and Techniques in Mechanical Engineering	3G E-Learning	2018	1
					TOTAL	5

MICROPROCESSOR SYSTEM	CIR 621.381 B292	1	Basics of Electronics & Microprocessor		2019	1
	CIR 621.3822 V546	2	DIGITAL AND STATISTICS SIGNAL PROCESSING	ANASTASIA VELONI	2019	1
	CIR 621.381 G9592	3	Digital Electronics	Dr. B.K. Gupta	2018	1
	CIR 001.642 H99	4	DIGITAL LOGIC AND MICROPROCESSOR DESIGN	ENOCH HWANG	2018	1
	CIR 630.2084 Sa199	5	Remote Sensing: Techniques in Agriculture	P.D. Sahu	2018	1
	620	6	Sensors for Mechatronics	Regtien	2018	1
	CIR 621.3815 Sh233	7	Digital Electronics and Logic Design	Sanjay Sharma	2017	1
	eBook	8	Microprocessor-based Parallel Architecture for Reliable Digital Signal Processing Systems	Alan D. George	2017	1
	620	9	Real-Time Embedded Systems	Wang, Jaicun	2017	1
					TOTAL	9

ELECTRICAL APPARATUS AND DEVICES	CIR 621.381 G9592	1	Digital Electronics	Dr. B.K. Gupta	2018	1
	CIR 621.381548 An14	2	Electronic instruments and measurements	M.L. Anand	2017	1
	CIR 621.37 EI258 2017	3	Electronics and Electrical measurement and Instrumentation	3G E-Learning	2017	1
	CIR 621.3815 Sh233	4	Digital Electronics and Logic Design	Dr. Sanjay Sharma	2017	1
	CIR 621.314 H426	5	Electrical Transformers and Rotating machines	Herman	2016	1
					TOTAL	5
	CIR 621.8 T149	1	Mechanics of Mechanisms and Machines	Talpasanu	2019	1

ELECTRICAL MACHINES 2	620	2	Mechatronics Technology	3G E-Learning	2019	1	
	CIR 621.46 M1101	3	Energy-saving Principles and Technologies for Induction Motors 1st Edition	Wenzhong Ma	2018	1	
	CIR 621 T343	4	Theory, Practice and Techniques in Mechanical Engineering	3G E-Learning	2018	1	
	CIR 621.381 G9592	5	Digital Electronics	Dr. B.K. Gupta	2018	1	
							TOTAL

EE LAWS, CODES AND PROFESSIONAL ETHICS	CIR 621.31924 M612	1	Illustrated Guide to the National Electrical Code	Miller	2015	1	
	CIR 174.5 M363 2010	2	Introduction to Engineering Ethics	Mike W. Martin	2010	5	
	eBook	3	Engineering ethics concepts and cases	Harris, Charles	2009	1	
	CIR 174.9 M363	4	Ethics in engineering	Martin, Mike	2005	5	
	621.319	5	Philippine Electrical Code vol. 1	Institute of Electrical Eng'g	2009	1	
	eBook	6	Electrical Safety and the Law	Ken Oldham-Smith	2002	1	
							TOTAL

FEEDBACK AND CONTROL SYSTEMS	CIR 629.8312 Sa163	1	Automatic Control System (w/ MATLAB programs)	S. Hasan Saeed	2019	1	
	eBook	2	Feedback Control Systems: Matlab	Asadi	2019	1	
	CIR 629.8 N633	3	Control Systems Engineering	N. Nise	2019	1	
	620	4	Kinematics and Dynamics of mechanical systems implementation in MATLAB and SimMechanics	Kevin Russell	2019	1	
	eBook	5	Feedback Control of Dynamic Systems	Gene F. Franklin	2018	1	
	620	6	Control of Power Electronic Converters and Systems vol.1	F. Blaaberg	2018	1	
	620	7	Power Electronics vol.2: Drive Technology and Motion Control	J. Pollefliet	2018	1	
	CIR 629.83 P541	8	Feedback control systems	Phillips	1991	1	
						TOTAL	8

ELECTRICAL STANDARDS AND PRACTICES	CIR 621.3 EI253	1	Electrical Installation and Maintenance: Expert (with DVD)	3G E-learning	2019	1	
	CIR 621.31924 F632	2	RESIDENTIAL CONSTRUCTION ACADEMY : House Wiring	GREG FLETCHER	2019	1	
	CIR 621.31924076 D93	3	Electrical Inspection, Testing and Certification: A guide to Passing the City & Guilds 2391 Exams	Michael Drury	2018	1	
	CIR 621.31924 H426	4	Electrical wiring industrial : based on the 2017 National Electrical Code	Herman, Stephen	2018	3	
	CIR 621.3191 R311	5	Residential, Commercial and Industrial Electrical System	3G Learning	2017	1	
							TOTAL

ELECTRICAL SYSTEMS AND ILLUMINATION ENGINEERING DESIGN	CIR 621.31924 H426	1	Electrical wiring : industrial	Herman	2018	1
	CIR 621.31924 M917	2	Electrical wiring : Residential	Mullins	2018	1
	CIR 621.31924 SI472	3	Electrical wiring : Commercial	Mullins	2018	1
	CIR 621.3191 R311	4	Residential, Commercial and Industrial Electrical System	3G Learning	2017	1
	CIR 621.31 B834	5	Industrial Electricity	Brumbach	2017	1

					TOTAL	5
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POWER SYSTEMS- GENERATION AND TRANSMISSION	620	1	Energy from Toxic Organic Waste for Heat and Power Generation	D. Barik	2019	1
	620	2	Modern Aspects of Power System Frequency Stability and Control	A. Dixon	2019	1
	620	3	Photovoltaic Design & Installation	Mayfield, Ryan	2019	1
	620	4	Power Engineering: Advances and Challenges Part B: Electrical Power	Badescu	2019	1
	CIR 621.312136 N331	5	Wind Energy: renewable energy and the environment	V. Nelson	2019	1
	CIR 620.1074 R187	6	APPLIED GAS DYNAMICS	E.RATHAKRISHNAN	2019	1
	CIR 621.31244 W832	7	The Solar generation: childhood and adolescence of terrestrial photovoltaics	P.R. Wolfe	2018	1
	CIR 621.31 T343	8	Theory, Practice and Techniques in Power Engineering	3G E-Learning	2018	1
	CIR 621.312 Si643	9	Utilization of Electric Energy (Including Electric Drives and Electric Traction)	T. Singh	2018	1
	CIR 621.31913 Sch199	10	Electrical Power System Essentials	Schavemaker	2017	1
	620	11	Engineering Energy Storage	O.S. Burheim	2017	1
	CIR 697.78 Sa719	12	Solar Heating and Cooling Systems: Fundamentals, Experiments and Applications	Sarbu & Sebarchievici	2017	1
	CIR 333.794 R293	13	Renewable Energy Power for A Sustainable Future	Walter	2017	1
				TOTAL	13	

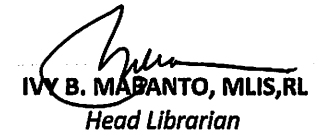
MANAGEMENT OF ENGINEERING PROJECTS	CIR 658.404 H192	1	3G handy guide : project management	3G E-Learning.	2019	1
	CIR 629.892 N539	2	Creating precision robots : a project-based approach to the study of mechatronics and robotics	Francis Nickols	2019	1
	CIR 306.450721 T3433	3	Theory and methods for sociocultural research in science and engineering education	Gregory J. Kelly	2019	1
	CIR 621.3 G959	4	Electrical engineering, design, drawing and estimation	Madhvi Gupta	2018	1
	CIR 658.5 In285	5	Industrial engineering and management	Harinirina Randrianarisoa	2018	1
				TOTAL	5	

INSTRUMENTATION AND CONTROL	620	1	Introduction to Mechatronics ad Measurement Systems	David C. Alciatore	2019	1
	CIR 629.8 N633	2	Control Systems Engineering	N. Nise	2019	1
	eBook	3	Fundamentals of Industrial Instrumentation and Process Control	William C Dunn	2018	1
	eBook	4	Instrumentation And Control Systems	Reddy	2016	1
	CIR 629.89 In792	5	Instrumentation and control servicing : intermediate	3G Learning	2016	1
				TOTAL	5	

POWER SYSTEM ANALYSIS DESIGN	eBook	1	Transient Analysis of Power Systems: A Practical Approach	Juan A. Martinez-Velasco	2020	1
	eBook	2	Advanced Electrical Drives: Analysis, Modeling, Control	Rik W. De Doncker	2020	1
	eBook	3	Power Systems Resilience: Modeling, Analysis and Practice	Naser Mahdavi Tabatabaei	2019	1
	CIR 621.981044 G518	4	Power System and Design	Glover	2017	1
	eBook	5	Power Systems Analysis	P.S.R. Murty	2017	1



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SURIGAO STATE COLLEGE OF TECHNOLOGY

Surigao City Campus



Bachelor of Science in Electrical Engineering (BSEE)

As of May 2022

SUBJECT/COURSE TITLE	TOTAL COLLECTION		
	NO. OF TITLE	NO. OF VOLUMES/COPIES	
		PRINT	ELECTRONIC
INTRODUCTION TO ELECTRICAL ENGINEERING	5	6	0
CIRCUITS1	5	3	2
CIRCUITS 2	5	3	2
ELECTRONIC CIRCUITS: DEVICES AND ANALYSIS	5	5	0
ELECTROMAGNETICS	10	10	0
NUMERICAL METHODS AND ANALYSIS	5	4	1
LOGIC CIRCUITS AND SWITCHING THEORY	6	1	5
INDUSTRIAL ELECTRONICS	9	9	0
FUNDAMENTALS OF ELECTRONIC COMMUNICATIONS	8	8	0
ELECTRICAL MACHINES 1	5	5	0
MICROPROCESSOR SYSTEM	8	8	1
ELECTRICAL APPARATUS AND DEVICES	5	5	0
ELECTRICAL MACHINES 2	5	5	0
EE LAWS, CODES AND PROFESSIONAL ETHICS	6	12	2
FEEDBACK AND CONTROL SYSTEMS	8	6	2
ELECTRICAL STANDARDS AND PRACTICES	5	7	0

ELECTRICAL SYSTEMS AND ILLUMINATION ENGINEERING DESIGN	5	5	0
POWER SYSTEMS- GENERATION AND TRANSMISSION	13	13	0
MANAGEMENT OF ENGINEERING PROJECTS	5	5	0
INSTRUMENTATION AND CONTROL	5	3	2
POWER SYSTEM ANALYSIS DESIGN	5	1	4
FUNDAMENTALS OF POWER PLANT ENGINEERING DESIGN	5	2	3
DISTRIBUTIONS SYSTEMS AND SUBSTATION DESIGN	5	3	2
POWER SYSTEMS - DISTRIBUTION SYSTEM AND SUPPLY	5	2	3
RESEARCH PROJECT OR CAPSTONE DESIGN PROJECT FOR EE	5	0	5

Total Professional Books

153

131

34

BSEE students enrolled

202

CHED Standard Ratio of Book: Student = 1:15

153:202

1:1

Prepared by:

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LIST OF ONLINE INTERNATIONAL JOURNALS

ELECTRICAL AND ELECTRONICS ENGINEERING

As of June 2022

TYPE OF MATERIAL	NO. OF TITLES	TITLE	PUBLISHER	TOTAL NUMBER OF ISSUES	DATE OF CURRENT ISSUE	LATEST VOLUME/ISSUE	5 years	10 years
E-Journal	1	Advanced Robotics	Taylor and Francis	288	2022	Volume 36, Issue 10	106	238
E-Journal	1	Advances in Building Energy Research	Taylor and Francis	33	2022	Volume 16, Issue 2	16	28
E-Journal	1	Australian Journal of Electrical and Electronics Engineering	Taylor and Francis	52	2021	Volume 26, Issue 2	18	42
E-Journal	1	Australian Journal of Multi-disciplinary Engineering	Taylor and Francis	17	2021	Volume 17, Issue 1	6	12
E-Journal	1	Electromagnetics	Taylor and Francis	248	2022	Volume 42, Issue 2	34	82
E-Journal	1	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Taylor and Francis	364	2022	Volume 44, Issue 2	98	242
E-Journal	1	Energy Sources, Part B	Taylor and Francis	112	2022	Volume 34, Issue 1	48	88
E-Journal	1	Engineering Management Journal	Taylor and Francis	129	2022		17	24
E-Journal	1	Engineering Optimization	Taylor and Francis	390	2022	Volume 54, Issue 6	54	126
E-Journal	1	Engineering Studies	Taylor and Francis	40	2022	Volume 14, Issue 1	13	31
E-Journal	1	EPE Journal: European Power Electronics and Drives	Taylor and Francis	103	2020	Volume 30, Issue 4	8	32
E-Journal	1	Ergonomics	Taylor and Francis	656	2022	Volume 65, Issue 5	53	125
E-Journal	1	European Journal of Engineering Education	Taylor and Francis	209	2022	Volume 47, Issue 3	27	63
E-Journal	1	IETE Journal of Education	Taylor and Francis	193	2022	Volume 63, Issue 1	9	20
E-Journal	1	IETE Journal of Research	Taylor and Francis	306	2022	Volume 68, Issue 1	25	36
E-Journal	1	IETE Technical Review	Taylor and Francis	242	2022	Volume 39, Issue 1	26	63
E-Journal	1	IISE Transactions	Taylor and Francis	437	2022	Volume 54, Issue 8	56	128
E-Journal	1	IISE Transactions on Healthcare Systems Engineering	Taylor and Francis	46	2022	Volume 12, Issue 2	18	42
E-Journal	1	IISE Transactions on Occupational Ergonomics and Human Factors	Taylor and Francis	37	2022	Volume 10, Issue 1	17	37
E-Journal	1	Intelligent Buildings International	Taylor and Francis	54	2022	Volume 14, Issue 1	17	42
E-Journal	1	International Journal for Computational Methods in Engineering Science and Mechanics	Taylor and Francis	104	2022	Volume 23, Issue 4	28	64
E-Journal	1	International Journal of Computer Integrated Manufacturing	Taylor and Francis	284	2022	Volume 35, Issue 3	39	111
E-Journal	1	International Journal of Control	Taylor and Francis	428	2022	Volume 95, Issue 6	54	114
E-Journal	1	International Journal of Design Creativity and Innovation	Taylor and Francis	36	2022	Volume 10, Issue 2	16	36


E-Journal	1	International Journal of Electronic Letters	Taylor and Francis	38	2022	Volume 10, Issue 2	18	38
E-Journal	1	International Journal of Electronics	Taylor and Francis	373	2022	Volume 109, Issue 6	54	126
E-Journal	1	International Journal of Green Energy	Taylor and Francis	183	2022	Volume 19, Issue 9	139	69
E-Journal	1	International Journal of Management Science and Engineering Management	Taylor and Francis	67	2022	Volume 17, Issue 2	18	42
E-Journal	1	International Journal of Occupational Safety and Ergonomics	Taylor and Francis	111	2022	Volume 28, Issue 2	18	42
E-Journal	1	IEEJ Transactions On Electrical And Electronic Engineering	Wiley	137	2022	Volume 17, Issue 6	54	103

30


5,717

1,104 2,246

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As of May 2022


FORMAT	TITLE #	TITLE	AUTHOR	PUBLICATION DATE	VOLUMES
eBook	1	Advances in Engineering Research and Application: Proceedings of the International Conference on Engineering Research and Applications, ICERA 2020	Kai-Uwe Sattler	2021	1
eBook	2	Distributed Energy Management of Electrical Power Systems	Yinliang Xu	2021	1
eBook	3	Intelligent Systems for Stability Assessment and Control of Smart Power Grids	Yan Xu	2021	1
eBook	4	More-Electronics Power Systems: Power Quality and Stability	Jingyang Fang	2021	1
eBook	5	Project Management and Engineering Research: AEIPRO 2019	José Luis Ayuso Muñoz	2021	1
eBook	6	Recent Research in Control Engineering and Decision Making: Volume 2, 2020	Olga Dolinina	2021	1
eBook	7	Advanced Electrical Drives: Analysis, Modeling, Control	Rik W. De Doncker	2020	1
eBook	8	Distribution systems analysis and automation	JUAN MANUEL GERS	2020	1
eBook	9	Introduction to Engineering Research	Wendy C. Crone	2020	1
eBook	10	Practical power plant engineering : a guide for early career engineers	Bedalov, Zark	2020	1
eBook	11	Transient Analysis of Power Systems: A Practical Approach	Juan A. Martinez-Velasco	2020	1
eBook	12	An introduction to numerical methods: a MATLAB approach	Guenther, Ronald B	2019	1
eBook	13	Electric Distribution Systems	Abdelhay A. Sallam	2019	1
eBook	14	Feedback Control Systems: Matlab	Asadi	2019	1
eBook	15	Fundamental Research in Electrical Engineering	Shahram Montaser	2019	1
eBook	16	Hybrid System Identification: Theory and Algorithms for Learning Switching	Fabien Lauer	2019	1
eBook	17	Introduction to Logic Circuits & Logic Design with Verilog	Brock J. LaMeres	2019	1
eBook	18	INTRODUCTION TO LOGIC CIRCUITS & LOGIC DESIGN WITH VHDL	LAMERES, BROCK	2019	1
eBook	19	Power Systems Resilience: Modeling, Analysis and Practice	Naser Mahdavi Tabatabaei	2019	1

eBook	20	Feedback Control of Dynamic Systems	Gene F. Franklin	2018	1
eBook	21	Fundamentals of Industrial Instrumentation and Process Control	William C Dunn	2018	1
eBook	22	Thermal Power Plant Control and Instrumentation: The control of boilers and	David Lindsley	2018	1
eBook	23	CMOS Integrated circuit simulation with LTSPICE	Bruun, Erik	2017	1
eBook	24	CMOS Integrated circuit simulation with LTSPICE : solutions	Bruun, Erik	2017	1
eBook	25	Design and power quality improvement of photovoltaic power system	Elbaset & Hassan	2017	1
eBook	26	Introduction to logic circuits and logic design with Verilog	LaMeres	2017	1
eBook	27	Microprocessor-based Parallel Architecture for Reliable Digital Signal	Alan D. George	2017	1
eBook	28	Power Switching Components: Theory, Applications and Future Trends	Kaveh Niayesh	2017	1
eBook	29	Power Systems Analysis	P.S.R. Murty	2017	1
eBook	30	A Textbook of Power Plant Engineering	R. K. Rajput	2016	1
eBook	31	Instrumentation And Control Systems	Reddy	2016	1
eBook	32	Optimization of power system operation	Zhu, Jizhong	2015	1
eBook	33	Fundamentals of Electric Circuits: instructor solutions manual	Alexander & Sadiku	2013	1
eBook	34	Digital signal processing in power system protection and control	Rebizant, Szafran, &	2011	1
eBook	35	Concepts in electric circuits	Naeem, Wasif	2009	1
eBook	36	Engineering ethics concepts and cases	Harris, Charles	2009	1
eBook	37	Electrical Safety and the Law	Ken Oldham-Smith	2002	1


TOTAL

37

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