



SSCT

"For Nation's Greater Heights"

I.5. The curriculum integrates values, reflective of national customs, culture and tradition in cases where applicable.



BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)

CMO No. 87, S. of 2017
Effective A.Y 2020-2021

First Year					
First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
MATH 111	Calculus 1	5	0	5	None
ES 133	Computer-aided Drafting	0	2	2	None
GE Math	Mathematics in the Modern World	5	0	5	None
GE USelf	Understanding the Self	3	1	4	None
CHEM 121	Chemistry for Engineers	3	0	3	None
IC 102	Introduction to Electrical Engineering	3	0	3	None
PE 1	Physical Fitness & Health	2	0	2	None
NSTP 1	National Service Training Program 1	3	0	3	None
Sub- Total		24	3	27	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 112	Calculus 2	5	0	5	Math 111
Phys 122	Physics for Engineers	3	1	4	Math 111; Co-requisite Math 112
GE Entrep	The Entrepreneurial Mind	3	0	3	None
GE IT	Living in the IT Era	3	0	3	None
CPE 143	Computer Programming	0	1	1	None
GE Rizal	Life and Works of Rizal	3	0	3	None
GE PurCom	Purposive Communication	3	0	3	None
PE 2	Rhythmic Activities	2	0	2	None
NSTP 2	National Service Training Program 2	3	0	3	NSTP 1
Sub- Total		25	2	27	

Second Year					
First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 113	Differential Equations	3	0	3	Math 112
EE 201	Electrical Circuits 1	3	1	4	Phys 122; Math 112
ES 255	Engineering Mechanics	3	0	3	Phys 122
Math 114	Engineering Data Analysis	3	0	3	Math 111
ES 302	Fluid Mechanics	2	0	2	Phys 122
GE ArtApp	Art Appreciation	3	0	3	None
GE EnviSci	Environmental Science	3	0	3	None
PE 3	PE 3	2	0	2	None
Sub- Total		22	1	23	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Math 161	Engineering Mathematics for EE	3	0	3	Math 113
EE 202	Electrical Circuits 2	3	1	4	EE 201
EE 201	Electronic Circuits: Devices and Analysis	3	1	4	EE 201
ES 262	Basic Thermodynamics	2	0	2	Phys 122
ES 137	Engineering Economics	3	0	3	Math 114
ECE 252	Electromagnetics	4	0	4	Phys 122; Math 113
GE Eth	Ethics	3	0	3	None
PE 4	PE 4	2	0	2	None
Sub- Total		23	2	25	

Third Year					
First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 301	Numerical Methods and Analysis	2	1	3	Math 161
ECE 371	Logic Circuits and Switching Theory	3	1	4	ECE 201
ES 246	Environmental Science and Engineering	3	0	3	None
GE STS	Science, Technology and Society	3	0	3	None
EE 311	Industrial Electronics	3	1	4	ECE 201
EE 312	Fundamentals of Electronic Communications	3	0	3	ECE 201
EE 302	Electrical Machines 1	2	0	2	ECE 252; EE 202
ES 261	Fundamentals of Deformable Bodies	2	0	2	ES 255
Sub- Total		21	3	24	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
CpE 371	Microprocessor Systems	3	1	4	ECE 371
EE 304	Electrical Apparatus and Devices	2	1	3	EE 202
EE 303	Electrical Machines 2	3	1	4	EE 302
ES 301	Basic Occupational Safety and Health	3	0	3	3rd year standing
ES 138	Technopreneurship	3	0	3	4 th year standing
EE 305	EE Law, Codes, and Professional Ethics	2	0	2	GE Eth
ECE 357	Feedback and Control Systems	3	0	3	Math 161; ECE 201
GE ConWorld	Contemporary World	3	0	3	None
Sub- Total		22	3	25	

Summer					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
Practicum	On-the-Job Training	3	240	2	4th Year Standing
Sub- Total		3	240	2	

Fourth Year					
First Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
ES 142	Materials Science and Engineering	3	0	3	CHEM 121; ES 261
EE 401	Electrical Standards and Practices	0	1	1	EE 305
EE 402	Electrical Systems and Illumination Engineering Design	3	2	5	EE 303
EE 481	Power Systems - Generation and Transmission	3	0	3	4 th year standing
EE 164	Management of Engineering Projects	2	0	2	EE 137
ES 140	Research Methods	0	1	1	Math 114; GE PurCom
EE 403	Instrumentation and Control	2	1	3	ECE 357
IC 105	EE REVIEW 1	2	0	2	4 th year standing
Sub- Total		15	5	20	

Second Semester					
Course Code	Descriptive Title	Lec	Lab	Units	Pre-requisite
EE 431	Power Systems Analysis	3	1	4	EE 401
EE 432	Fundamentals of Power Plant Engineering Design	0	1	1	Co-requisite: EE 431
EE 433	Distribution Systems and Substation Design	2	1	3	Co-requisite: EE 431
EE 482	Power Systems - Distribution System and Supply	3	0	3	EE 481
EE 422	Research Project or Capstone Design Project for EE	0	1	1	ES 142
ES 484	Seminars/Colloquia & Field Trips	0	1	1	4 th year standing
IC 106	EE REVIEW 2	2	0	2	4 th year standing
GE Hist	Readings in Philippine History	3	0	3	NONE
Sub- Total		13	5	18	

Grand Total					
		165	264	188	

SUMMARY		Units
I. Technical Courses		
A. Mathematics		16
B. Natural/Physical Sciences		8
C. Basic Engineering Sciences		11
D. Allied Courses		39
E. Professional Courses		52
F. Electives		6
	Sub-Total	132
II. Non-Technical Courses		
A. GE Core Courses		24
B. Electives		9
C. Mandated Courses		3
D. Physical Education		8
E. NSTP		6
	Sub-Total	50
III. Institutional Courses		
A. Introduction to Electrical Engineering		2
B. EE Review 1		2
C. EE Review 2		2
	Sub-Total	6
	Grand Total	188

Prepared by:

ENGR. JOSELITO BALDAPAN, PEE
Program Chair, BSEE

Noted by:

CARLOS H. DONOSO, EdD
Campus Director, Surigao City Campus

Checked and Reviewed by:

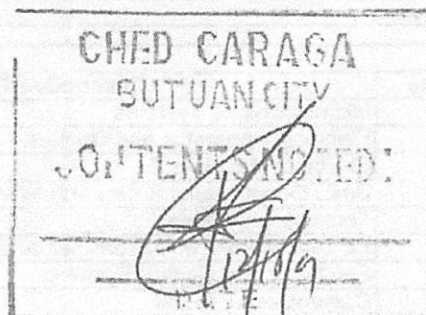
ENGR. ROBERT R. BACARRO, MECE, MBA
Dean, CEIT

Recommended by:

EMMYLOU A. BORJA, EdD
VP for Academic Affairs

Approved by:

GREGORIO Z. GAMBOA, JR., EdD
College President





"For Nation's Greater Heights"

Republic of the Philippines
SURIGAO STATE COLLEGE OF TECHNOLOGY
Narciso St., Surigao City, Philippines, 8400
http://www.ssct.edu.ph

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	1 of 11

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

Outcomes Based-Education (OBE) Syllabus in EE 140
RESEARCH METHODS
Course Credit: 1.0 unit Laboratory 3 hours/week (54 hrs)

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

SSCT Quality Policy

Service-Oriented

Socially Responsive

Committed

Transformational

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.



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	2 of 11

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 nations greater heights.

Program Educational Objectives (PEO) and Relationship to Institutional Mission

Program Educational Objectives (PEO)	Mission		
	a	b	c
EE-PEO1. Demonstrate professionalism in electronics 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	/	/	/

Republic of the Philippines

SURIGAO STATE COLLEGE OF TECHNOLOGY

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<http://www.ssct.edu.ph>

Program Outcomes (PO)

Program Educational Objectives (PEO)

	Program Educational Objectives (PEO)			
	1	2	3	4
<i>EE-POa.</i> Apply knowledge of mathematics and science to solve engineering Problems				
<i>EE-POb.</i> Design and conduct experiments, as well as to analyse and interpret Data				
<i>EE-POc.</i> Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental political,	/	/	/	/

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



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	3 of 11

ethical, health and safety, manufacturability, and sustainability, in accordance with standards				
EE-POd. Function on multidisciplinary teams				
EE-POe. Identify, formulate, and solve engineering problems				
EE-POf. Apply professional and ethical responsibility				
EE-POg. Communicate effectively				
EE-POh. Identify the impact of engineering solutions in a global, economic, environmental, and societal context	/	/	/	/
EE-POi. Recognition of the need for, and an ability to engage in life-long learning				
EE-POj. Apply knowledge of contemporary issues				
EE-POk. Use techniques, skills, and modern engineering tools necessary for engineering practice				
EE-POl. Apply knowledge of engineering and management principles as a member and leader in a team, to manage projects and in multidisciplinary environments	/	/	/	/
EE-POm. Understand at least one specialized field of electrical engineering practice				

Course Description

This course covers the study of the methodologies used in conducting an engineering research. It includes the types and application of research, characteristics of good research, research design, research instrument and data gathering procedures. It also deals with study of writing a research proposals and various formats.

DACUM Main Duties (DMD)

- EE-DMD1. Design, review, and redesign schematic diagrams, plan layout, and execution plan
- EE-DMD2. Approve the system operation as per approved project specification
- EE-DMD3. Oversee project implementation
- EE-DMD4. Site survey
- EE-DMD5. Coordinate with team members



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	4 of 11

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 <i>Demonstrating</i> Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards;	<i>EE140-CO1:</i> Design an electrical system in accordance to environmental, safety standards and economic feasibility.	Students design and propose electrical system as their propose project. This is a group projects which they will analyze, design, develop, implement, and evaluate the electrical project. Criteria – Environmental, safety standards, economic feasibility Total: 80 points	/			/	
EE-POc <i>Demonstrating</i> Identify the impact of engineering solutions in a global, economic, environmental, and societal context;	<i>EE140-CO2:</i> Identify societal problems that needs electronic engineering solution.	Students do a societal scanning of real-world problems that needs engineering solution. This is an individual project were the student will propose a solution using electronic engineering technology. Criteria – Realistic problem, Innovation, Technology Total: 80 points			/		
EE-POd <i>Demonstrating</i>	<i>EE140-CO3:</i> Apply engineering management in working with project proposal	Students do a business plan for the capstone project. This is a group project were the		/			/



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	5 of 11

Apply knowledge of engineering and management principles as a member and leader in a team, to manage projects and in multidisciplinary environments;	project as a leader or a member in a team.	student will apply engineering economy and technopreneurship for the project feasibility in business incubation. Criteria – Financial Plan, Return of Investment, Break-even analysis Total: 80 points					
EE – Poi Recognition of the need for, and an ability to engage in life-long learning							

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

Course Outcomes (CO)	Intended Learning Outcomes (ILO)
<i>EE140-CO1</i> : Design an electrical system in accordance to environmental and safety standards	<i>EE140-ILO4</i> : Design system models and simulations of systems operation. (EE140-CO1) <i>EE140-ILO5</i> : Design the evaluation process of the developed system. (EE140-CO1) <i>EE140-ILO7</i> : Design the research journal for presentation in research conference. (EE140-CO1)
<i>EE140-CO2</i> : Identify societal problems that needs electronic engineering solution.	<i>EE140-ILO1</i> : Identify real-world problems. (EE140-CO2)
<i>EE140 -CO3</i> : Apply engineering management in working with capstone project as a leader or a member in a team.	<i>EE140-ILO2</i> : Apply project development process in capstone project. (ECE140-CO3) <i>EE140-ILO3</i> : Apply project management in implementation of capstone project. (EE140-CO3) <i>EE140-ILO6</i> : Apply engineering economy in the profitability of the project. (EE140-CO3)



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	6 of 11

Detailed Course Content

Intended Learning Outcomes (ILO)	Topics	Time Frame	Teaching and Learning Activities (TLA)	Assessment Tasks (ILO-AT)	Target	Resources	Values Integration	Remarks
EE140-ILO1: Identify real-world problems. (EE140-CO2)	1. Nature and Characteristics of Research 1.1 Methodology of Conducting Research 1.2 Types of Research 1.3 Types of Research Application	7.0 hrs	Paired critiquing on real-world problems <i>Synchronous</i> Learning Module 1 <i>Asynchronous</i>	Identification quiz on researchable real-world problems for capstone project	70% of the students shall have a rating of at least 3.0	Video clip on real-world problems	Core Value: <i>Committed</i> Sub-Value: <i>Persistent identification of real-world problems</i>	
EE140-ILO2: Apply project development process in capstone project. (EE140-CO3)	2. Types of Research 2.1 Basic Research 2.2 Applied Research 2.3 Pure 2.4 Characteristics of Research	7.0 hrs	Video viewing in youtube in engineering project development <i>Synchronous</i> Learning Module 2 <i>Asynchronous</i>	Graded oral presentation in engineering project development	70% of the students shall have a rating of at least 3.0	Website in engineering project development	Core Value: <i>Transformational</i> Sub-Value: <i>Adaptive project development</i>	
EE140-ILO3: Apply project management in implementation of capstone project. (EE140-CO3)	3. Research Problems and Objectives 3.1 Purpose of Research 3.2 Developing Research Objectives	8.0 hrs	Video viewing in youtube in project management <i>Synchronous</i> Learning Module 3 <i>Asynchronous</i>	Q & A about project management	70% of the students shall have a rating of at least 3.0	Website in project management	Core Value: <i>Service oriented</i> Sub-Value: <i>Commitment in project management</i>	



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	7 of 11

EE140-ILO4: Design system models and simulations of systems operation. (EE140-CO1)	4. Review of Related Literature 4.1 Conceptual Literature 4.2 Research Literature 4.3 Referencing	7.0 hrs	Perform a system modelling and simulations of system operation <i>Synchronous</i> Learning Module 4 <i>Asynchronous</i>	Graded project presentation in system modelling for capstone project	70% of the students shall have a rating of at least 3.0	Video clip in system modelling	Core Value: <i>Transformational</i> Sub-Value: <i>Optimistic system modelling</i>	
PROPOSE PROJECT PRESENTATION – 1.0 Hr.								
EE140-ILO5: Design evaluation process of the developed system. (EE140-CO1)	5.0 Research Design 5.1 Experimental Design 5.2 Descriptive	7.0 hrs	Design an evaluation process of a developed system <i>Synchronous</i> Learning Module 5 <i>Asynchronous</i>	Graded project presentation in system performance evaluation related to capstone project	70% of the students shall have a rating of at least 3.0	Website in system performance evaluation	Core Value: <i>Socially responsive</i> Sub-Value: <i>Accountability in performance evaluation</i>	
EE140-ILO6: Apply engineering economy profitability of the capstone project. (EE140-CO3)	6. Research Paradigm 6.1 Dependent Variable 6.2 Independent Variable	7.0 hrs	Exhibitions in economic feasibility of the capstone project <i>Synchronous</i> Learning Module 6 <i>Asynchronous</i>	Q & A about the application of engineering economy in capstone project	70% of the students shall have a rating of at least 3.0	Website in engineering economy	Core Value: <i>Socially responsive</i> Sub-Value: <i>Empathy in project profitability</i>	
EE140-ILO7: Design the research journal for presentation in research conference. (EE140-CO1)	7.0 Data Processes and Statistical Treatment 7.1 T-test 7.2 Z-test 7.3 Anova 7.4 Progression 7.5 Hypothesis testing	9.0 hrs	Participate in crafting the capstone project research journal <i>Synchronous</i> Learning Module 7	Graded project presentation in research journal for capstone project	70% of the students shall have a rating of at least 3.0	Website in IEEE research journal	Core Value: <i>Committed</i> Sub-Value: <i>Integrity in writing research</i>	

	8.0 Writing Research Proposal 8.1 The Problem and Its Background 8.2 Review of Related Literature 8.3 Research Method and Procedure							
	9.0 Ethical issues on Researcch							



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	8 of 11

			Asynchronous				journal	
CAPSTONE PROPOSAL PRESENTATION – 1.0 Hr								

References:

Books

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 M. Kerr. *How to write a Market Analysis.* Retrieve from: <https://articles.bplans.com/how-to-write-a-market-analysis/>
 Wikipedia. *Gantt Chart.* Retrieve from: https://en.wikipedia.org/wiki/Gantt_chart
 Editage Insights. *Effective Table and Figure Presentation.* Retrieve from: <https://www.editage.com/insights/tips-on-effective-use-of-tables-and-figures-in-research-papers?refer=scroll-to-1-article&refer-type=article>
 Enago Academy. *Table and Figure Presentation.* Retrieve from: <https://www.enago.com/academy/how-to-use-tables-and-figures-to-effectively-organize-data-in-research-papers/>
 University of Victorias. *What is a Journal.* Retrieve from: <https://www.uvic.ca/library/research/tips/journal/index.php>
 IEEE Research Journal Format. Retrieve from: https://www.coep.org.in/page_assets/491/IEEE_Template_4.pdf
 MeaseyLabs. *Making a presentation from your research proposal.* Retrieve from: <http://john.measey.com/Blog/2018/03/18/Making-a-presentation-from-your-research-proposal>
 Podiobox. *15 Minute Presentation Guide.* Retrieve from: <https://www.podiobox.com/blog/post/15-minute-presentation-quick-guide>
 Business Insider. *7 brilliant ways to start any presentation.* Retrieve from: <https://www.businessinsider.com/smart-ways-to-start-a-presentation-2016-6#-7>
 Inomics. *Dress Code for Economic Conferences: What to Wear and What to Avoid.* Retrieve from: <https://inomics.com/advice/dress-code-for-economic-conferences-what-to-wear-and-what-to-avoid-48004#:~:text=Smart%20is%20better%20than%20casual&text=For%20women%2C%20skirts%20and%20dresses,dress%20up%20a%20plain%20outfit.>
 Brock University. *How to Create a Research Poster.* Retrieve from: <https://researchguides.library.brocku.ca/poster>



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Course Requirements:

- Design of an electronic system (CO-AT1)
- Researchable scanning of real-world problems (CO-AT2)
- Business plan of capstone project (CO-AT3)
- Research Journal
- Propose Project Presentation
- Capstone Project Proposal Defense

Course Evaluation:

<u>Criteria</u>	<u>Lecture Grade</u>
➤ Quizzes and online outputs/interaction (ILO-AT)	25%
➤ Performance Tasks (CO-AT)	35%
➤ Project Proposal (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

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	9 of 11



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	10 of 11

"For Nation's Greater Heights"

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 and shall be converted to pdf form prior to submission.
4. Cheating in major examinations which includes 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 Vicente Z. Delante	August 2021	September 2021	Followed OBTL Format as per CMO #101 S. 2017 DACUM Workshop vis-à-vis CMO No. 101 S. 2017

Prepared by:

ENGR. Vicente Z. Delante
 Asst. Prof. 111

Date: 8/16/21

Checked and reviewed by:

ENGR. Vicente Z. Delante
 Program Chair, BSEE


Date: 8/16/21



Republic of the Philippines
SURIGAO STATE COLLEGE OF TECHNOLOGY
Narciso St., Surigao City, Philippines, 8400
<http://www.ssct.edu.ph>

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Noted by:


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

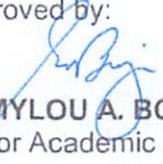
Date: 8-17-21

Recommended by:


RONITA E. TALINGTING, PhD
Campus Director

Date: 8-12-21

Approved by:


EMMYLOU A. BORJA, EdD
VP for Academic Affairs

Date: 8-13-2021

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	11 of 11



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Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	1 of 10

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

Outcomes Based-Education (OBE) Syllabus in IC 106
EE Review 2
Course Credit: 2.0 units(36hrs)

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.



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	2 of 10

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				



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	3 of 10

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

This course is a 2 unit lecture intended for 4th year standing Electrical Engineering students. The course includes topics on Electrical Engineering that are relevant to electrical engineering practice and board exam.

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



"For Nation's Greater Heights"

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-POa <i>Enabling</i> Apply knowledge of mathematics and sciences to solve complex engineering problems;	IC106-CO1: Apply higher engineering mathematics and sciences to solve complex engineering problems.	Students solve a set of electrical engineering problems to test their knowledge on higher mathematics and sciences. Criteria – 70% correct answers and solution Total Points: 100 points					✓
EE-Poe <i>Enabling</i> Identify, formulate, and solve complex problems in electrical engineering.	IC106-CO2: Identify and apply electrical engineering formulas to solve real world electrical engineering problems.	Students create a portfolio of solved electrical engineering problem sets by applying the appropriate engineering formulas. Criteria – 70% correct answers and solution Total Points: 100 points	✓				✓

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

Course Outcomes (CO)	Intended Learning Outcomes (ILO)
IC106-CO1: Apply higher engineering mathematics and sciences to solve complex engineering problems.	IC106-ILO1: Review the fundamental concepts, laws, theorems, and circuit techniques in dc circuits and analyse problems involving them. (IC106-CO1, IC106-CO2)
IC106-CO2: Identify and apply electrical engineering formulas to solve real world electrical engineering problems.	IC106-ILO2: Review the fundamental concepts and laws in ac circuits and analyse problems involving them. (IC106-CO1, IC106-CO2)



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	5 of 10

	<p><i>IC106-ILO3:</i> Review the concepts and topics on electrical machines and calculate electrical engineering problems involving them. (IC106-CO2)</p> <p><i>IC106-ILO4:</i> Review the concepts and topics on power system analysis and calculate electrical engineering problems involving them. (IC106-CO2)</p> <p><i>IC106-ILO5:</i> Review the concepts and laws on illumination and solve electrical engineering problems involving them. (IC106-CO2)</p> <p><i>IC106-ILO6:</i> Review the concepts and topics on power plants and solve electrical engineering problems involving them. (IC106-CO2)</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>IC106-ILO1:</i> Review the fundamental concepts, laws, theorems, and circuit techniques in dc circuits and analyse problems involving them. (IC106-CO1, IC106-CO2)	1. DC CIRCUITS 1.1. <i>Basic Concepts</i> 1.2. <i>Basic Circuit Laws</i> 1.3. <i>Analysis Methods</i> 1.4. <i>Circuit Analysis Techniques</i> 1.5. <i>Capacitors and Inductors</i> 1.6. <i>First-Order</i>	8.0 hrs.	Learning Module 1 <i>Asynchronous</i>	Problem analysis quiz and problem set on DC circuits	70% of the students shall have a rating of at least 3.0	Videos online, modules, e-books, and worksheets	Core Value: <u>Committed</u> Sub-Value: <u>Determined in the review of dc circuits</u>	



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	6 of 10

	<i>Circuits</i> 1.7. <i>Second-Order Circuits</i>							
<i>IC106-ILO2: Review the fundamental concepts and laws in ac circuits and analyse problems involving them. (IC106-CO1, IC106-CO2)</i>	2. AC CIRCUITS 2.1. <i>Sinusoids and Phasors</i> 2.2. <i>Sinusoidal Steady-State Analysis</i> 2.3. <i>AC Power Analysis</i> 2.4. <i>Three-Phase Circuits</i> 2.5. <i>Magnetically Coupled Circuits</i> 2.6. <i>Frequency Response</i>	8.0 hrs.	Learning Module 2 <i>Asynchronous</i>	Problem analysis quiz and problem set on AC circuits	70% of the students shall have a rating of at least 3.0	Videos online, modules, e-books, and worksheets	Core Value: <i>Committed</i> Sub-Value: <i>Dedicated in the review of ac circuits</i>	
MIDTERM EXAMINATION– 2.0 Hrs.								
<i>IC106-ILO3: Review the concepts and topics on electrical machines and calculate electrical engineering problems involving them. (IC106-CO2)</i>	3. ELECTRICAL MACHINES 3.1. <i>Transformers</i> 3.2. <i>DC Motors</i> 3.3. <i>DC Generators</i> 3.4. <i>Synchronous Generators</i> 3.5. <i>Synchronous Motors</i> 3.6. <i>Induction Motors</i> 3.7. <i>Single-phase and special-purpose motors</i>	6.0 hrs.	Learning Module 3 <i>Asynchronous</i>	Problem analysis quiz and problem set on electrical machines	70% of the students shall have a rating of at least 3.0	Videos online, modules, e-books, and worksheets	Core Value: <i>Committed</i> Sub-Value: <i>Determined in the review of electrical machines</i>	



"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	7 of 10

<p>IC106-ILO4: Review the concepts and topics on power system analysis and calculate electrical engineering problems involving them. (IC106-CO2)</p>	<p>4. POWER SYSTEM ANALYSIS</p> <p>4.1. <i>Transmission Lines</i></p> <p>4.2. <i>Power Flows</i></p> <p>4.3. <i>Symmetrical Faults</i></p> <p>4.4. <i>Symmetrical Components</i></p> <p>4.5. <i>Unsymmetrical Faults</i></p>	5.0 hrs.	<p>Learning Module 4 <i>Asynchronous</i></p>	<p>Problem analysis quiz and problem set on power system analysis</p>	<p>70% of the students shall have a rating of at least 3.0</p>	<p>Videos online, modules, e-books, and worksheets</p>	<p>Core Value: <i>Committed</i></p> <p>Sub-Value: <i>Determined in the review of power system analysis</i></p>	
<p>IC106-ILO5: Review the concepts and laws on illumination and solve electrical engineering problems involving them. (IC106-CO2)</p>	<p>5. ILLUMINATION</p> <p>5.1. <i>Basic Illumination</i></p> <p>5.2. <i>Lighting Calculations</i></p>	3.0 hrs.	<p>Learning Module 5 <i>Asynchronous</i></p>	<p>Problem analysis quiz and assignment on illumination</p>	<p>70% of the students shall have a rating of at least 3.0</p>	<p>Videos online, modules, e-books, and worksheets</p>	<p>Core Value: <i>Committed</i></p> <p>Sub-Value: <i>Perseverant in the review of illumination</i></p>	
<p>IC106-ILO6: Review the concepts and topics on power plants and solve electrical engineering problems involving them. (IC106-CO2)</p>	<p>6. POWER PLANTS</p> <p>6.1. <i>Load Characteristics</i></p> <p>6.2. <i>Types of Power Plants</i></p>	2.0 hrs.	<p>Learning Module 6 <i>Asynchronous</i></p>	<p>Problem analysis quiz and assignment on power plants</p>	<p>70% of the students shall have a rating of at least 3.0</p>	<p>Videos online, modules, e-books, and worksheets</p>	<p>Core Value: <i>Committed</i></p> <p>Sub-Value: <i>Perseverant in the review of power plants.</i></p>	
<p>FINAL EXAMINATION – 2.0 Hrs.</p>								

References:

Charles Alexander & Matthew Sadiku (2016). *Fundamentals of Electric Circuits*. 6th ed. McGraw-Hill Education
 Stephen D. Umans (2014). *Fitzgerald & Kingsley's Electric Machinery*. 7th ed. McGraw-Hill
 Hemchandra Madhusudan Shertukde (2019). *Power System Analysis Illustrated with MATLAB and ETAP*. CRC Press Taylor and Francis Group



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	8 of 10

"For Nation's Greater Heights"

J. Duncan Glover, Thomas J. Overbye, & Mulukutla S. Sarma (2017). *Power System Analysis & Design*. 6th ed. Cengage Learning
 Mark Karlen, et al. (2017). *Lighting Design Basics*. 3rd ed. John Wiley & Sons, Inc.
 Turan Gönen (2014). *Electric Power Distribution Engineering*. 3rd ed. CRC Press, Taylor & Francis Group

Course Requirements:

- Solved Electrical Engineering Problem Sets(CO-AT1)
- Portfolio of Solve electrical Engineering Problem Sets(CO-AT2)
- Quizzes and Assignments
- Midterm and Final exams

Course Evaluation:

<u>Criteria</u>	<u>Lecture Grade</u>
➤ Quizzes and online outputs/interaction (ILO-AT)	25%
➤ Performance Tasks (CO-AT)	35%
➤ Major Exams (Midterm and Final)	<u>40%</u>
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



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	9 of 10

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 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. Andy Bong F. Navarro	January 11, 2021	January 15, 2021	Followed OBTL Format as per CMO #101 S. 2017
2	Engr. Vernon V. Liza	January 24, 2021	February 7, 2021	DACUM Workshop vis-à-vis CMO No. 101 S. 2017



Republic of the Philippines
SURIGAO STATE COLLEGE OF TECHNOLOGY
 Narciso St., Surigao City, Philippines, 8400
<http://www.ssct.edu.ph>


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Prepared by:


ENGR. VERION V. LIZA
 Guest Lecturer

Date: 1-25-2022

Noted by:


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

Date: 1-28-2022

Checked and reviewed by:


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


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

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	10 of 10



"For Nation's Greater Heights"

SURIGAO STATE COLLEGE OF TECHNOLOGY

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	1 of 12

COLLEGE OF ENGINEERING AND INFORMATION TECHNOLOGY 2nd Semester, Academic Year 2020-2021

SYLLABUS in EE 305 – EE Laws, Code and Professional Ethics, etc.

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.

Institutional Intended Learning Outcomes

: SSCT graduates are expected to:

1. Demonstrate innovation and technological skills;
2. Exhibit critical thinking, collaboration, and communication;
3. Manifest leadership, adaptability, and responsibility

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.



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	2 of 12

Program Educational Objectives and Relationship to Institutional Mission

Program Educational Objectives	Mission		
	a	b	c
PEO 1. Innovative and knowledgeable in the latest trends in electrical engineering and demonstrate in their jobs as professional the technical expertise and practical skills.	✓	✓	✓
PEO 2. Flexible in working with multidisciplinary teams, responsible for providing solutions in electrical engineering showing attributes of professionalism and critical thinking.	✓	✓	✓
PEO 3. Engage in lifelong learning and are taking leadership roles in electrical engineering organization that are valuable to the advancement of the society.	✓	✓	✓

Program Outcomes and Relationship to Program Educational Objectives

Program Outcomes	Program Educational Objectives		
	1	2	3
a. Apply knowledge of mathematics and sciences to solve complex engineering problems			
b. Develop and conduct appropriate experimentation, analyze and interpret data			
c. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards			
d. Function effectively on multi-disciplinary and multi-cultural teams that establish goals, plan tasks, and meet deadlines			
e. Identify, formulate and solve complex problems in electrical engineering			
f. Recognize ethical and professional responsibilities in engineering practice	✓	✓	✓
g. Communicate effectively with a range of audiences	✓	✓	✓
h. Understand the impact of engineering solutions in a global, economic, environmental, and societal context	✓	✓	✓
i. Recognize the need for additional knowledge and engage in lifelong learning			



j Articulate and discuss the latest developments in the field of electrical engineering			
k. Apply techniques, skills, and modern engineering tools necessary for electrical engineering practice			
l. 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 Code
Course Descriptive Title
Course Credit
Pre-requisites/Co-requisites

EE 305
EE Laws, Code and Professional Ethics, etc.
2 units
Ethics

Course Description

The course is designed to prepare electrical engineering students for professional practice. Topics include education and practice of the New Electrical Engineering Law and other laws governing the profession, Philippine Grid Code, Philippine Distribution Code, Basic Contracts and ethics in relation to the practice of the electrical engineering profession.

Course Outcomes and Relationship to Program Outcomes

Course Outcomes: After completing this course, the students must be able to	Program Outcomes												
	a	b	c	d	e	f	g	h	i	j	k	l	m
1. Identify the specific laws required for a responsible practice of electrical engineering.						D	E	E					
2. Comprehend the standards necessary for proper conduct of electrical engineering.						D	E	E					
3. Discover the purpose of RA 7832.						D	E	E					
4. Determine the penalties for violating RA 7832.						D	E	E					
5. Determine the Purpose of EPIRA Law						D	E	E					
6. Explain how the EPIRA Law promotes competition, encourage market development, ensure consumer choice, and penalize abuse of market power in the restructured electricity industry.						D	E	E					
7. Discover the Code of Ethics for Electrical Engineers						D	E	E					



**SURIGAO STATE COLLEGE
OF TECHNOLOGY**

"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	4 of 12

8. Determine how to perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.						D	E	E					
9. Determine the rights of residential electricity consumers and its obligations.						D	E	E					
10. Appraise the importance of Warranty, Liability, Patents, Bids, and Insurance.						D	E	E					
11. Distinguish the difference between Warranties and Guarantee						D	E	E					
12. Distinguish the difference between Liabilities and Debt						D	E	E					
13. Understand the intended use of Grid Code						D	E	E					
14. Distinguish the technical aspects of the working relationship between the distributors and all the users of the distribution system						D	E	E					
15. Determine the policy covering technical requirements in constructing or renovating buildings and structures in the Philippines to secure the life, health, property and welfare of the Filipinos						D	E	E					
16. Determine the rules, and understand the purpose of Wholesale Electricity Spot Market						D	E	E					
17. Determine the Guidelines for Energy Conserving Design of Buildings and Utility Systems						D	E	E					
18. Distinguish the relevant laws, codes and standards in the energy and power industry						D	E	E					
Level: I – Introductory E – Enabling D – Demonstrative													



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	5 of 12

Detailed Course Syllabus

Course Outcomes	Topics	Time Frame	Teaching and Learning Activities	Assessment Tasks	Resources	Values Integration	Remarks
<p>Express understanding of the Vision and Mission statements of SSCT, including its Goals and Objectives;</p> <p>Analyze the syllabus by looking into the ILOs, Subject Matter, TLAs, Assessment Strategies, Values and References; and</p> <p>Design strategies that will help meet the requirements and obtain desired grades/marks for the course</p>	<p>ORIENTATION ON THE COURSE</p> <p>VMGO</p> <p>Syllabus</p> <p>Grading System</p>	1 hr.	<p><i>Documentary Analysis of Syllabus and Grading System</i></p> <p><i>Concept Mapping (Sunflower Map/Fishbone Map)</i> on strategies to meet course requirements</p>		<p>Computer/ Projector for Power point presentation of the VMGO</p> <p>Syllabus</p>	Obedience, Punctuality, Diligence	
<p>CO 1: Identify the specific laws required for a responsible practice of electrical engineering.</p> <p>CO 2: Comprehend the</p>	<p>1. The New Electrical Engineering Law (RA 7920) of 1995</p>	2 hrs.	<p>Instructor provides reading module which can be available online and offline/hardcopy (upon request)</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	Diligence, Self-confidence, Self-awareness	



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	6 of 12

standards necessary for proper conduct of electrical engineering.			Online discussion using Google meet				
CO 3: Discover the purpose of RA 7832. CO 4: Determine the penalties for violating RA 7832.	2. Anti-Electricity Pilferage Act (RA 7832) of 1994	3 hrs.	Instructor provides reading module which can be available online and offline/hardcopy (upon request) Online discussion using Google meet	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Self-confidence, Self-awareness	
CO 5: Determine the Purpose of EPIRA Law CO 6: Explain how the EPIRA Law promotes competition, encourage market development, ensure consumer choice, and penalize abuse of market power in the restructured electricity industry.	3. EPIRA Law (RA 9136) of 2001	5 hrs.	Instructor provides reading module which can be available online and offline/hardcopy (upon request) Online discussion using Google meet	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Diligence; Self-confidence, Self-awareness	



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	7 of 12

<p>CO 7: Discover the Code of Ethics for Electrical Engineers</p> <p>CO 8: Determine how to perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.</p>	<p>4. Code of Ethics for Electrical Engineers</p>	<p>1 hr.</p>	<p>Instructor provides reading module which can be available online and offline/hardcopy (upon request)</p> <p>Online discussion using Google meet</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	<p>Diligence; Self-confidence, Self-awareness</p>	
<p>CO 9: Determine the rights of residential electricity consumers and its obligations.</p>	<p>5. Magna Carta for Residential Electricity Consumer</p>	<p>2 hrs.</p>	<p>Instructor provides reading module which can be available online and offline/hardcopy (upon request)</p> <p>Online discussion using Google meet</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	<p>Self-confidence, Self-awareness</p>	



**SURIGAO STATE COLLEGE
OF TECHNOLOGY**

"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	8 of 12

<p>CO 10: Appraise the importance of Warranty, Liability, Patents, Bids, and Insurance.</p> <p>CO 11: Distinguish the difference between Warranties and Guarantee</p> <p>CO 12: Distinguish the difference between Liabilities and Debt</p>	<p>6. Warranties, Liabilities, Patents, Bids, and Insurance</p>	<p>2 hrs.</p>	<p>Instructor provides reading module which can be available online and offline/hardcopy (upon request)</p> <p>Online discussion using Google meet</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	<p>Self-confidence, Self-awareness</p>	
<p>MIDTERM EXAMINATION: 2.0 Hours</p>							
<p>CO 13: Understand the intended use of Grid Code</p>	<p>7. Grid Code</p>	<p>3 hrs.</p>	<p>Instructor provides reading module which can be available online and offline/hardcopy (upon request)</p> <p>Online discussion using Google meet</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	<p>Self-confidence</p>	
<p>CO 14: Distinguish the technical aspects of the working relationship between the distributors and all the users of the</p>	<p>8. Distribution Code</p>	<p>3hrs.</p>	<p>Instructor provides reading module which can be available online and</p>	<p>Online quiz using Google classroom</p> <p>Assignments</p>	<p>Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources</p>	<p>Diligence; Self-confidence,</p>	



Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	9 of 12

distribution system			offline/hardcopy (upon request) Online discussion using Google meet			Self-awareness	
CO 15: Determine the policy covering technical requirements in constructing or renovating buildings and structures in the Philippines to secure the life, health, property and welfare of the Filipinos	9. National Building Code	4 hrs.	Instructor provides reading module which can be available online and offline/hardcopy (upon request) Online discussion using Google meet	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Self-confidence, Self-awareness	
CO 16: Determine the rules, and understand the purpose of Wholesale Electricity Spot Market	10. Wholesale Electricity Spot Market Rules	4 hrs.	Instructor provides reading module which can be available online and offline/hardcopy (upon request) Online discussion using Google meet	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Self-confidence, Self-awareness	
CO 17: Determine the Guidelines for Energy Conserving Design of Buildings and Utility Systems	11. Guidelines for Energy Conserving Design of Buildings and Utility Systems	1 hr.	Instructor provides reading module which can be available online and offline/hardcopy	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Self-confidence, Self-awareness	



**SURIGAO STATE COLLEGE
OF TECHNOLOGY**

"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	10 of 12

			(upon request) Online discussion using Google meet				
CO 18: Distinguish the relevant laws, codes and standards in the energy and power industry	12. Other relevant laws, codes and standards in the energy and power industry	1 hr.	Instructor provides reading module which can be available online and offline/hardcopy (upon request) Online discussion using Google meet	Online quiz using Google classroom Assignments	Module from instructor, Personal Computer, Laptop, Cell phone, Online Resources	Self-confidence, Self-awareness	
FINAL EXAMINATION: 2.0 Hours							

References:

- The New Electrical Engineering Law (RA 7920)
- Anti-Electricity Pilferage Act (RA 7832)
- EPIRA Law (RA 9136)
- Code of Ethics for Electrical Engineers
- Magna Carta for Residential Electricity Consumer
- <https://www.scribd.com/document/438966676/EE-Laws-Warranties-Etc-Report>
- Grid Code
- **Distribution Code**
- **National Building Code**
- Wholesale Electricity Spot Market Rules



SURIGAO STATE COLLEGE OF TECHNOLOGY

"For Nation's Greater Heights"

Course Requirements:

- Oral Participation during Class discussion
- Portfolio of Problem Sets
- Individual Project using Math Equation Editor in MS-Word
- Midterm & Final Examination

Course Evaluation:

<u>Criteria</u>	<u>Lecture Grade</u>
➤ Major Exams (Midterm and Finals)	40%
➤ Performance Task (Project / Assignments)	35%
➤ Quizzes and Online outputs/interaction	25%
TOTAL	100%

Grade Point	Description
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 will be checked in every class sessions to prove the students' presence in the class. This is to monitor whether absences incurred by the student is still within the allowed number of absences for a course as stipulated in the Student Handbook.
2. Excuse from the class will only be honoured if a Memo from the school is issued before the absence or valid excuse letter from parents/guardians is presented after the absence. No other excuses will be entertained.

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	11 of 12



**SURIGAO STATE COLLEGE
OF TECHNOLOGY**

"For Nation's Greater Heights"

Document Code No.	FM-SSCT-ACAD-002
Revision No.	00
Effective Date	20 September 2018
Page No.	12 of 12

3. The use of multiple choice questionnaires is used during the midterm and final examination. However, for problem solving, a detailed solution is required written legibly in a separate long size bond paper or newsprint.
4. Cheating in midterm and final examination will entail a zero score. Cheating is defined to include an attempt to defraud, deceive, or mislead the instructor in arriving at honest grade assessment.
5. Plagiarism in papers and other works will entail zero score. Plagiarism is a form of cheating that involves presenting as one's own work the ideas or work of another.
6. Students who fail to take the midterm and final examination as scheduled shall be required to write an explanation letter address to the Program Chair, noted by the parents/guardian, and approved by the Dean. After that, he/she can take the missed examination.
7. Clearance is required when the student take the final examination based on No Clearance No Examination Policy.
8. Project shall be submitted on the set deadline by the instructor. Unsatisfactory project will not be accepted. However, the student will be given a chance to improve their project. Non-submission of the project on the set deadline means a zero score.

Revision History:

Revision No.	Date of Revision	Date of Implementation	Highlight of Revision
1	August 2019	1st Sem, AY 2019-2020	Followed OBTL Format as per CMO #101 S. 2017
2	December 5, 2020	1st Sem, AY 2020-2021	Followed suggestion from ChED COPC.

Preparation, Review, and Approval:

Prepared by:


ENGR. VICENTE Z. DELANTE
Assistant Professor III


Date: 01/21/2021

Checked and Reviewed by:


ENGR. VICENTE DELANTE, MSEE
Program Chair, BSEE

Date: 01/21/2021

Noted by:


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

Date: 1-22-21

Recommended by:


DR RONITA E. TALINGTING
Campus Director

Date: 1-22-21

Approved by:


EMMYLOU A. BORJA, EdD
VP for Academic Affairs

Date: 1-23-2021