

NORTHWEST SAMAR STATE UNIVERSITY
COLLEGE OF ENGINEERING AND ARCHITECTURECOMPUTER
ENGINEERING AND ARCHITECTURECOMPUTER
ENGINEERING AND ARCHITECTURE





NWSSU VISION

The premier technological university in the region providing transformative education where graduates are globally competitive, innovative, and responsive to the demands of a changing world. (BOR No. 101 s. 2022)

NWSSUMISSION

NwSSU shall lead in providing highly technical and professional education and lifelong learning in the trade, fishery, agriculture, science, education, commerce, engineering, forestry, nautical, and other emerging programs in the digital age. It shall generate cutting-edge technology and undertake sustainable community development in accordance with the university mandates, thrusts, and directions. (BOR No. 101 s. 2022)

NWSSU QUALITY POLICY

Northwest Samar State University commits to provide excellent, relevant and quality instruction, research. extension and production by adhering to statutory regulatory and requirements and pledging to continually improve its Quality Management System, thereby satisfying client needs and world-class producing professionals.

CORE VALUES

Resilience Intigrity Service Excellence

COLLEGE OF ENGINEERING AND ARCHITECTURE

GOAL

The College of Engineering and Architecture shall spearhead in the holistic development of students and achieve a status capable of adminestering effectively outcomes-based education, research, extension services that meet professional and technical needs of local and international industries.

INSTITUTIONAL GRADUATE OUTCOMES

Creative and Critical Thinkers Life Long Learners Effective Communicators

Morally and Socially Upright individuals

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING HISTORY

By virtue of Board Resolution No. 62 series of 1996, the opening of Bachelor of Science in Computer Engineering was approved during the 82nd Regular Meeting of the Board of Trustees of Tiburcio Tancinco Memorial Institute of Science and Technology (TTMIST), the former name of NWSSU, held on December 18, 1996 at VISCA, Baybay, and Leyte. The program has then undergone many curriculum revisions and it was presented and certified by the University Curriculum Revision Committee on March 02. 2018 at the Office of the Vice President for Academic Affairs. It was then noted by Commission on Higher Education (CHED) on October 29, 2018. The revised curriculum was then first implemented on first semester of SY 2018 – 2019, the program adopted the OBE-aligned curricula as per BOR Resolution No. 21, series of 2018 and in conformity with CHED's Outcomes-Based Education Curriculum contained in CMO No. 87, series of 2017. The curriculum was then submitted to CHED for approval for the implementation of CHED Memorandum Order No. 20, series of 2013 on General Education Curriculum: Holistic understandings, Intellectual and Civic Competence and the CHED Memorandum Order No. 39 on Policies and standards and guidelines on the implementation of tertiary education: Physical Activity towards Health and Fitness (PATHFIT) Courses.

NATURE AND THE FIELD OF STUDY

The Bachelor of Science in Computer Engineering (BSCpE) is a program that embodies the science and technology of design, development, implementation, maintenance and integration of software and hardware components in modern computing systems and computer-controlled

equipment.

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Career Opportunities for Computer Engineering graduates

- Entry to Mid level positions jobs requiring no prior to minimal level of experience
 - Junior Software Developer
 - Test Engineers
 - Computer Programmer
 - Support Specialist
 - Instrumentation Technician
 - Applications Analyst
 - Printed Circuit designer
 - Electrical Designer
 - Robotics Control Systems Engineer
 - Advanced Positions require years of extensive experience and practice
 - Network systems administrator/manager
 - Computer Systems Manager
 - Quality Assurance Manager
 - Senior Communications Engineer
 - Systems Analyst
 - Network Architects
 - Systems Engineer
 - Computer Consultant

Characteristics of CpE Graduates

With the ubiquity of computers, computer-based systems and networks in the world today, computer engineers must be versatile in the knowledge drawn from standard topics in computer science and electrical engineering as well as the foundations in mathematics and sciences. Because of the rapid pace of change in the computing field, computer engineers must be life-long learners to maintain their knowledge and skills within their chosen discipline.



MEET THE FACULTY



- **Professional Computer Engineer**
- **MSIT** Graduate
- CISCO Academy Instructor
- PhD. TM -Completed Academic Requirements
- Length of Service: 15 yrs.
- Currently enrolled in MEng-CpE
- ICPEP LIFETIME member



- VENIS M.DOCDOC, CpE Instructor 1
 - She has completed her academic requirements and is currently working on her master's thesis in Information Technology.
 - ICpEP Member
 - Length of Service: 4 yrs.

GERALD JAMES IGNACIO, CpE

Instructor 1

- has completed his academic requirements and is currently working on his master's thesis in Information Technology.
- ICpEP Member
- Length of Service: 5 yrs.

MEET THE FACULTY



EUGENE CALONG, PCPE-MSIT

Instructor 3

- Professional Computer Engineer
- MSIT Graduate
- CISCO Academy Instructor
- Certified MICROTIC Technician
- Length of Service: 20 yrs.
- ICPEP LIFETIME member



MANUEL SAPINIT JR., CpE



Instructor 1

- Magna Cum Laude
- Former DOST Scholar
- ICpEP Member
- Length of Service: 4 months

CURRICULUM CHECKLIST

SY: 2023-2024

FIRS	TYEAR		151	131 JEMESTER						
Course Code	Course Description	Grade	No. of Hours		Credit Units	Pre- Re/Co-Re				
0000			Lec.	Lab						
31	Engineering Algebra		3	0	3					
2	Engineering Trigonometry		3	0	3					
13	Solid Mensuration		3	0	3					
4	Analytic Geometry		3	0	3					
CpE 1	Computer Engineering as a Discipline		1	0	1					
pE 2	Programming Logic and Design		0	6	2					
Shem E	Chemistry for Engineers		3	3	4					
GEC Elec 1	Living in the IT Era		3	0	3					
'ATHFit 1	Physical Activity towards Health and Fitness1(PATHFit 1): Movement Competency Training		2	0	2					
ISTP 1	NSTP 1		3	0	3					
	Total		24	9	27					

Course Code	Course Description	Grade	No. of Hours		Credit Units	Pre-Re/Co- Re
			Lec.	Lab	0.1112	
Math 1	Calculus 1		3	0	3	B1,B2,B3,B4
CpE 3	Object Oriented Programming		0	6	2	CpE 2
Math 3	Engineering Data Analysis		3	0	3	Math 1
GE1	Understanding the Self		3	0	3	
GE 2	Readings in Philippine History		1	0	3	
GE 4	Mathematics for the Modern World		3	0	3	
PATHFit 2	Physical Activity towards Health and Fitness 2 (PATHFit 2): Exercise-based Fitness Activities		2	0	2	PATHFit 1
GEC Elec 2	The Entrepreneurial Mind		3	0	3	
NSTP 2	NSTP 2		3	0	3	NSTP 1
	Total		21	6	25	

Course Description

Physics for Engineers

Calculus 2

SECOND YEAR

Course

Code

Math 2

PhysE1

FIRST YEAR

SUMMER

Lec

3

3

6

Grad

e

Total

No. of

Hours

Lab

0

3

3

Credi

t

Units

3

4

7

SECON	DYEAR	1S	T SE	MES	STER	
Course Code	Course Description	Grade	No Ho Lec	. of urs Lab	Credit Units	Pre- Re/Co- Be
GE 7	Science, Technology and Society	у	3	0	3	
GE 6	Arts Appreciation		3	0	3	
CpE 5	Data Structures and Algorithm		3	0	3	CpE 3
BES 4	Engineering Economics		3	0	3	2"" Year Standing
GEC Elec R	Indigenous Creative Craft		3	0	3	
EE 214	Fundamentals of Electrical Circuit	N N	0	6	4	PhysE1
BES 2	Computer Aided Drafting		3	3	4	2" Year Standing
Math 4	Differential Equations		3	0	3	Math 2
PATHFit 3	Health and Fitness1(PATHFit 3): Movement Competency		2	0	2	PATHFit 1&2
	Total		23	9	28	

SECOND YEAR

2ND SEMESTER

Course		Grad	No	. of	Credi
Code	Course Description	е	LEC	Lab	t Units
pE 6	Numerical Methods		3	0	3
ъЕ 7	Software Design		з	з	4
pE4	Discrete Mathematics		3	0	3
E 5	Purposive Communication		3	0	3
CE 284	Fundamentals of Electronic Circuits		3	3	4
lizal	Life and Works of Rizal		3	0	3
'ATHFit 4	Physical Activity towards Health and Fitness 4 (PATHFit 4): Sports		2	0	2
iE 3	The Contemporary World		3	0	3
	Total		23	6	25





2ND SEMESTER

CURRICULUM CHECKLIST

				SY:2	2023-2	202
THIRD YE	AR	1ST S	EMES	STER		
Course	Course Description	Grad	No. of Hours		Credi t	
Code		e	Lec	Lab	Units	
CpE 12	Basic Occupational Health and Safety		3	0	3	
CpE 13	Computer Networks and Securitu		3	3	4	
CpE 14	Microprocessors		3	3	4	
RES 1	Methods of Research		2	0	2	
BES 5	Technopreneurship 101		3	0	3	
GE 8	Ethics		3	0	3	-
CpE 15	CpE Laws and Professional Practice		2	0	2	-
TE 2	Course 2		3	0	3	
	Total		22	6	24	
	R	2NC) SEN	IEST	ER	0

Course	Course Description	Grad	No. of Hours		Credi
Code		e	Lec	Lab	(Units
CpE 12	Basic Occupational Health and Safety		3	0	3
СрЕ 13	Computer Networks and Securitu		3	3	4
СрЕ 14	Microprocessors		3	3	4
RES1	Methods of Research		2	0	2
BES 5	Technopreneurship 101		З	0	3
GE 8	Ethios		з	0	3
CpE 15	CpE Laws and Professional Practice		2	0	2
TE 2	Lognate / Elective		3	0	3
	Total		22	6	24

THIRD YEAR

Course Code	Course Description	Grade	No Ho	. of urs	Credit	Pre- Re/Co-
			Lec	Lab	Units	Re
CpE 16	On the Job Training		3	240	3	4th Year Standing
	Total		3	240	3	

SUMMER









CURRICULUM CHECKLIST

FOURTH YEAR

1ST SEMESTER

FOURTH YEAR

SECOND SEMESTER

Course Code	Course Description	Grade	No. of I	Hours	Credit Units	Pre- Re/Co- Re
			Lec	Lab		
CpE 17	Embedded Systems		3	3	4	CpE 14
CpE 18	Computer Architecture and Organization		3	3	4	CpE 14
CpE 19	Emerging Technologies in CpE		3	0	3	4thYear Standing
CpE 20	CpE Practice and Design 1		0	3	1	CpE 14, RES
ECE 434	Digital Signal Processing		3	3	4	ECE 333
TE 3	Cognate / Elective Course 3		3	0	3	TE 2
	Total		15	12	19	

Course Code	Course Description	Grade	No. of Hours		Credit Units	Pre- Re/Co- Re
			Lec	Lab		
CpE 21	CpE Practice and Design 2		0	6	2	СрЕ 20
СрЕ 22	Seminar and Field trips		0	3	1	4th Year Standing
	Total		0	9	3	

COGNATES/ ELECTIVES

EMBEDDED SYSTEMS

COGNATES/ ELECTIVES		EMB	EDD	ED SYS	TEMS				
Course Description	Grade	No. of Hours Lec Lab		No. of Hours		No. of Hours		Credit Units	Pre- Re/Co- Re
Embedded Systems 1			3	3					
Embedded Systems 2			3	3					
Embedded Systems 3			3	3					
Total		0	9	9					

COGNATES/ ELECTIVES			OEL	ECTRO	NICS
Course Description	Grade	No. of I	No. of Hours		Pre- Re/Co- Re
		Lec Lab			
Microelectronics 1			3	3	
Microelectronics 2			3	3	
Microelectronics 3			3	3	
Total		0	9	9	

Summary of the BSCpE Curriculum

Classification/Field/Course	No. of	Hours/Week	Credit Linits
I. TECHNICAL COURSES	Lec	Lab	Credit Onits
A. Mathematics	24		23
B. Natural/ Physical Sciences	6	6	8
C. Basic Engineering Sciences	9	3	9
D. Allied Courses	3	9	8
E. Professional Courses	56	291	70
F. Cognates/ Electives	9		9
Subtotal	107		127
II. NON-TECHNICAL COURSES			
A.General Education Courses	24		21
B. GEC Electives/ Mandated Courses	12		12
C. Physical Education	8		8
D. NSTP	6		6
Subtotal	50		47
GRAND TOTAL (including PE and NSTP)	157	309	174

Course Description	Grade	No. of Hours		Credit Units	Pre- Re/Co- Re
		Lec	Lab		
ystem and Network Administration 1-CISCO			3	3	
ystem and Network Administration 2-CISCO			3	3	
ystem and Network Administration 3-CISCO			3	3	
Total		0	9	9	

COGNATES/ ELECTIVES

SOFTWARE DEVELOPMENT

Course Description	Grade	No. of Hours		No. of Hour Grade		Credit Units	Pre- Re/Co- Re
		Lec	Lab				
Software Development 1			3	3			
Software Development 2			3	3			
Software Development 3			3	3			
Total		0	9	9			



PROGRAM EDUCATIONAL OBJECTIVES

PEO 1

The Computer Engineering graduates of NwSSU will achieve a high level of technical expertise so that they are able to succeedin positions in Computer engineering practice or research, and in other fieldsthey chose to pursue.



PEO 2

Graduates will produce engineering designs that are based on sound principles that consider functionality, aesthetics, safety, cost effectiveness and sustainability.



PEO 3

Graduates will pursue lifelonglearning such as graduate studies and other professional education.

EDUCATIONAL TOUR DAY 4

PROGRAM EDUCATIONAL OBJECTIVES

PEO 4

Graduates will engage in professional service, such as participation in professional society and community service.



Graduates will fulfill values, professional and ethical responsibilities in the practice of COMPUTER engineering, including social, environmental and economic considerations.

PEO 6

Graduates will be leaders, both in their chosen profession and in other activities.

Congratulations!



Engr. Manuel C. Sapinit III MAGNA CUM LAUDE

•LOYALTY AWARD (SILVER) 6. SAPINIT, MANUEL C. III •BSCpE Best in Advanced Logic Circuit Design: SAPINIT, MANUEL C. III •BSCpE Best in Microelectronics: SAPINIT, MANUEL C. III •BSCpE Best in Microprogramming: SAPINIT, MANUEL C. III •BSCpE Best innovator Award: SAPINIT, MANUEL C. III •BSCpE Best Innovator Award: SAPINIT, MANUEL C. III •We Are Very Proud of You!







PROGRAM OUTCOMES

By the time of graduation, the students of the program shall have the ability to:

- a) Ability to apply knowledge of mathematics and science to solve complex engineering problems;
- b) Ability to design and conduct experiments, as well as to analyze and interpret data;
- c) Ability to 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) Ability to function on multidisciplinary teams;
- e) Ability to identify, formulate, and solve complex engineering problems;
- f) Understanding of professional and ethical responsibility;
- g) Ability to communicate effectively;
- h) Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
- i) Recognition of the need for, and an ability to engage in life-long learning
- jj) Knowledge of contemporary issues;
- k) Ability to use techniques, skills, and modern engineering tools necessary for engineering practice; and
- I) Knowledge and understanding of engineering and management principles as a member and leader in a team, to manage projects and in multidisciplinary environments.

ACADEMIC PARTNERS:

Northwest Samar State University is a proud member of CISCO Networking Academy



Cisco Networking Academy

Cisco Networking Academy is one of the longest-standing IT skills-to-jobs programs in the world. In support of Cisco's Purpose to Power an Inclusive Future for All, we aim to transform the lives of learners, educators, and communities through the power of technology, education, and career opportunities. We work to bridge digital divides for underrepresented communities, opening them up to a world of opportunities in the evolving digital economy.



Digital impact

Social impact

Cisco invests in innovative, tech-enabled solutions for the critical challenges facing our people, planet, and society to

new opportunities to drive long-term prosperity and social

The solutions we support and deploy address what matters most in vulnerable, underserved communities-from fulfilling critical human needs and responding to crisis to unlocking

help build thriving communities around the world.

isco partners with a variety of organizations, including overnments, nonprofits, educational institutions, and social ntrepreneurs, working to address some of the world's reatest challenges, such as hunger, economic inequality, and mited access to education.



ONLINE PARTNERS



About TOP

TESDA Online Program (TOP) is a web-based platform that offers free Massive Open Online Courses (MOOCs) for the technical education and skills development of the Filipino workers.

Through the use of information and communication technologies, the TOP provides an effective and efficient way to deliver technical-vocational education and training at the learner's own space and time.

The TOP is available for blended learning through the **Multi-Regional TESDA Online Program (MRTOP)** offered by TESDA Technology Institutions (TTIs).

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INDIVIDUAL PARTNERSHIP

DG Dunleavy

Program Manager for Impacting Opportunities

Senior Program Manager with extensive experience in Program Management, Project Management, Technical Lead Software Engineering, as well as Product Management. Microsoft Veteran 20+ Years. Responsibilities include focused customer engagement. leadership, communications and adaptability. Diverse working and management experience with small and large teams, profit and non-profit, cross team collaboration with internal and external partners. Provided business intelligence management of details across multiple disciplines locally and internationally for delivery of multiple high quality successful products (software and hardware) and business projects from inception to release and launch. Strengths also include design work-flows, data analytics, developing and management of relationships at multiple levels. Work across organizational boundaries with diverse ideas, dealing with ambiguity, maintaining constructive attitude in time of changes, conviction and empathy. Provide resource and risk management, working knowledge of multiple SDLC methodologies and technologies. Work is quality driven with entrepreneurial mindset that includes grant management, contract negotiation and GDPR (Privacy) experience.



Main aspects of this partnership

- as academic consultant
- forged MOA for scholarship grant exclusive only for BSCpE Students
- donated school supplies and materials for the BSCpE Program

Documentations



Institute of Computer Engineers of the Philippines.Se-NwssU April 26, 2023 · 🗞

A memorable day for us Computer Engineering Students because Sir DG Dunleavy visited us! Thank you so much for sharing your experiences to us not just knowledge but importantly how to be the real us!

"There are two types of education... One should teach us how to make a living, and the other how to live." -John Adams



Company Partners **ITECHRAR**

fiberNet Broadband Inc.



2016

DIGITAL TRANSFORMATION INC.



CISCO

INSTITUTE OF COMPUTER ENGINEERS OF THE PHILIPPINES STUDENT EDITION









