



## CC111 – INTRODUCTION TO COMPUTING

### UNIVERSITY VISION

A leading university in advancing scholarly innovation, multi-cultural convergence, and responsive public service in a borderless region.

### UNIVERSITY MISSION

The University shall primarily provide advance instruction and professional training in science and technology, agriculture, fisheries, education and other related field of study. It shall undertake research and extension services, and provide progressive leadership in its area of specialization.

### UNIVERSITY GOAL

- a. Deliver quality service to stakeholders to address current and future needs in instruction, research, extension, and production
- b. Observe strict implementation of the laws as well as the policies and regulations of the University
- c. Acquire with urgency state-of-the-art resources for its service areas
- d. Bolster the relationship of the University with its local and international customers and partners
- e. Leverage the qualifications and competences in personnel action and staffing

- f. Evaluate the efficiency and responsiveness of the University systems and processes

### UNIVERSITY OBJECTIVES

- b. Enhance competency development, commitment, professionalism, unity and true spirit of service for public accountability, transparency and delivery of quality services;
- c. Provide relevant programs and professional trainings that will respond to the development needs of the region;
- d. Strengthen local and international collaborations and partnerships for borderless programs;
- e. Develop a research culture among faculty and students;
- f. Develop and promote environmentally-sound and market-driven knowledge and technologies at par with international standards;
- g. Promote research-based information and technologies for sustainable development;
- h. Enhance resource generation and mobilization to sustain financial viability of the university.

**Program Objectives and its relationship to University Objectives:**

PROGRAM OBJECTIVES (PO)	UNIVERSITY OBJECTIVES						
	a	b	c	d	e	f	G
A graduate of BS in Information Systems (BSIS) can:							
a. Employ theoretical and practical skills in innovating latest technology in computing.	✓	✓	✓	✓	✓	✓	✓
b. Design and implement business information systems	✓	✓	✓	✓	✓	✓	✓
c. Promote the advancement of industry-based services and technology that contributes to the development of the community; and	✓	✓	✓	✓	✓	✓	✓
d. Demonstrate the code of conduct as well as social and legal aspects of Information Systems.	✓	✓	✓	✓	✓	✓	✓

- 1. **Course Code** : CC111
- 2. **Course Title** : Introduction to Computing
- 3. **Prerequisite** : NONE
- 4. **Credits** : 3 UNITS
- 5. **Course Description** :

This course provides the Computing Industry and Computing profession, including Research and Applications in different fields; an appreciation of computing in different fields such as Biology, Sociology, Environment and Gaming; and Understanding of ACM Requirements; an Appreciation of the history of computing and Knowledge of Key Components of Computer Systems (Organization and Architecture), malware, Computer Security, Internet and Internet protocols. This course also covered the topic about Number Systems.

## 6. Course Learning Outcomes and Relationships to Program Objectives

Course Learning Outcomes		Program Objectives				
At the end of the semester, the students can:		a	b	c	d	e
a. describe the five components of a computer: input devices, output devices, system unit, storage devices and communication devices;		✓	✓			✓
b. discuss the advantages and disadvantage that users experience when working with computer		✓	✓	✓		✓
c. discuss the uses of Internet and World Wide Web		✓	✓	✓	✓	✓
d. distinguish between system software and application software		✓	✓	✓	✓	✓
e. differentiate among types, sizes and functions of computer in each of these categories: personal computers (desktop), mobile computers and mobile devices, game consoles, servers, mainframes, supercomputers and embedded computers		✓	✓	✓	✓	✓
f. explain how home users, small office, home office users, mobile users, power users and enterprise users interact with computer		✓	✓	✓	✓	✓
g. discuss how society uses computer in education, finance, health care, science, publishing, travel and manufacturing		✓	✓	✓	✓	✓
h. describe the various types of internet and network attacks		✓	✓	✓	✓	✓
i. discuss techniques to prevent unauthorized computer access and use		✓	✓	✓	✓	✓
j. discuss ways to prevent health related disorders and injuries due to computer use		✓	✓	✓	✓	✓
k. discuss issues surrounding information privacy, including electronic profiles, cookies, spyware, adware, spam, phishing, privacy laws, social engineering, employee monitoring and content filtering		✓	✓	✓	✓	✓
l. Discuss the use of the arithmetic operation of number system.		✓	✓	✓	✓	✓

## 7. Course Content

Course Objectives, Topics, Time Allotment	Desired Student Learning Outcomes	Outcomes-Based Assessment (OBA) Activities	Evidence of Outcomes	Course Learning Outcomes	Program Objectives	Values Integration
<b>1. SKSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (2 hours)</b>						
1.1. Discuss the VMGO of the university, classroom policies, scope of the course, course requirements and grading system	1. Student can be aware of and appreciate the university's VMGO, classroom policies, course overview, requirements and grading system.	Individual participation in class discussion	Group and individual discussions			Value of appreciation
<b>2. INTRODUCTION TO COMPUTERS (4 hours)</b>						
At the end of the lesson the student can: 2.1. Explain why computer literacy is vital to success in today's world 2.2. Describe the five components of a computer system 2.3. Discuss the advantages and disadvantages that users experience when working with computers	The student can: 2.1. understand the importance of computer literacy in today's world 2.2. identify the different components of a computer system 2.3. enumerate the advantages and disadvantages of the users when working with computers	Students participation in question and answer activity facilitated by teacher  Lecture/ Discussion Demonstration  Individual/Group Project	Rubrics of class participation accomplished by professor.  Quizzes  Rubrics for Individual/Group Project	a, b,d	a, b, d, e	Value of Unity and Cooperation  Value of participation  Value of Respect

<p>2.4. Discuss the uses of internet and world wide web</p> <p>2.5. Distinguish between system software and application software</p> <p>2.6. Differentiate among types, sizes and functions of computers in each category</p> <p>2.7. Explain how home users, small office/home office users, mobile users, power users, and enterprise users each interact with computers</p> <p>2.8. Discuss how society uses computers in education, finance, government, health care, science, publishing, travel, and manufacturing</p>	<p>2.4. appreciate the uses of internet and world wide web</p> <p>2.5. differentiate system software and application software</p> <p>2.6. identify the different types, sizes, and functions of computer in each category</p> <p>2.7. identify the different uses of computers by different users</p> <p>2.8. appreciate the use of computers and its application in the society</p>				
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<b>3. THE INTERNET AND THE WORLD WIDE WEB (6 hours)</b>						
At the end of the lesson the student can: 3.1. Identify and briefly describe various broadband Internet connections 3.2. Describe the types of Internet access providers 3.3. Explain the purpose of a Web browser and identify the components of a Web address 3.4. Describe how to use a search engine to search for information on the Web 3.5. Describe the types of Web sites 3.6. Recognize how Web pages use graphics, animation, audio, video, virtual reality, and plug-ins 3.7. Identify the steps required for Web	The student can: 3.1. Identify and describe various broadband Internet connections. 3.2. Identify different types of Internet access providers. 3.3. identify the importance of a Web browser and its components 3.4. describe how to use a search engine to search information on the Web 3.5. Identify the different types of Websites and functions. 3.6. Identify the steps for Web publishing 3.7. Identify the different internet services and netiquette rules. 3.8. Appreciate the importance of different internet services 3.9. Apply the netiquette in their everyday lives	Students participation question answer facilitated by teacher	Rubrics of class participation accomplished by professor.	c, d, e	a, b, d,e	Value of Participation  Value of Patience and Respect  Value of Hard work  Creativity

<p>publishing</p> <p>3.8. Explain how e-mail, mailing lists, instant messaging, chat rooms, VoIP, FTP, and newsgroups and message boards work</p> <p>3.9. Identify the rules of netiquette</p>						
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#### **4. APPLICATION SOFTWARE (6 hours)**

At the end of the lesson the student can:	The student can:					
4.1. Identify the four categories of application software	4.1. Identify and differentiate the four categories and features of application software	Students participation question and answer facilitated by teacher	Rubrics of class participation accomplished by professor.	c, d, e	a, b, c, d,e	Value of participation
4.2. Identify the key features of widely used business programs	4.2. Determine the key features of widely used business, graphics and multimedia, home, personal and educational programs	Lecture/ Discussion	Quizzes			Value of Hard work
4.3. identify the key features of widely used graphics and multimedia programs	4.3. Describe the web applications	Individual	Hands-on Activity	Rubrics for Individual Hands-on Activity		Patience
4.4. identify the key features of widely used home,	4.4. Identify the different types of application software used in communications					Creativity

personal and educational programs						
4.5. discuss web applications	4.5. Determine the learning aids available for application software					
4.6. identify the types of application software used in communications	4.6. Determine the different application software used in communications					
4.7. describe the learning aids available for application software	4.7. Discuss the different learning aids for application software					

### 5. THE COMPONENTS OF SYSTEM UNIT (5 hours)

At the end of the lesson the student can:	The students can:					
5.1. Differentiate among the various styles of system units on desktop, computers, notebook computers, and mobile devices	5.1. Determine the various styles of the system units on desktop, computers notebook and mobile devices	Students participation in question and answer activity facilitated by teacher	Rubrics of class participation accomplished by professor.	c, d, e	a, b, c, d,e	Value of Participation
5.2. Describe the control unit and arithmetic logic unit component of a processor, and	5.2. Explain the importance and functions of arithmetic logic unit,	Lecture/ Discussion Demonstration	Quizzes			Value of patience and respect Value of Hard work Creativity

<p>explain the four steps in a machine cycle</p> <p>5.3. Differentiate among the various types of memory</p> <p>5.4. Describe the purpose and types of expansion slots and adapter cards</p> <p>5.5. Differentiate between a port and a connector, and explain the differences among a USB port and other ports</p> <p>5.6. Describe the types of buses in a computer</p> <p>5.7. Explain the importance of cleaning a system unit on a computer or mobile device</p>	<p>control unit and the four steps in machine cycle</p> <p>5.3. Describe the various types of memory, expansion slots and card reader and its purpose</p> <p>5.4. Determine different ports and connector, buses of a PC</p> <p>5.5. Describe the importance of cleaning a system unit on a computer or mobile device</p> <p>5.6. Differentiate the different buses in a computer system</p> <p>5.7. Demonstrate and discuss the proper way of cleaning a system unit on a computer or mobile device</p>	<p>Individual/Group Project</p>	<p>Rubrics for Individual/Group Project</p>			
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<b>6. UNDERSTANDING INPUT AND OUTPUT ( 6 Hours)</b>						
<p>At the end of the lesson the student can:</p> <p>6.1. Identify the keys and buttons commonly found on desktop, computer keyboards, and describe how keyboards for mobile computers and devices differ from desktop computer keyboards</p> <p>6.2. Describe different mouse types</p> <p>6.3. Describe various types of touch screens and explain how a touch – sensitive pad works.</p> <p>6.4. Explain other types of input including various game controllers, other input for smart phones, how resolution affects the quality of a picture captured on digital cameras, voice and</p>	<p>Students can:</p> <p>6.1. Identify and differentiate keys, mouse, and buttons found on desktop computers that with mobile computers</p> <p>6.2. Differentiate various type of sensitive pad and touch screen</p> <p>6.3. Differentiate and explain the functionality of input and output devices</p> <p>6.4. identify the different types of inputs and can explain how resolution affects the quality of images</p>	<p>Students participation in question and answer activity facilitated by teacher</p>	<p>Rubrics of class participation accomplished by professor.</p>	<p>c, d, e</p>	<p>a, b, c, d,e</p>	<p>Value of Participation Value of patience and respect Value of Hard work Patience Creativity</p>

<p>video input, scanners and reading devices, various biometric devices, and terminals</p> <p>6.5. Explain the characteristics of LCD monitors, LCD screens, and CRT monitors</p> <p>6.6. Summarize the various types of printers</p> <p>6.7. Identify the purpose and features of input / output devices</p> <p>6.8. Identify input and output options for physically challenged users</p>	<p>6.5. identify and differentiate the characteristics of different types of monitors</p> <p>6.6. identify the different types of printers</p> <p>6.7. appreciate the uses of input and output devices</p> <p>6.8. appreciate the importance of input and output devices for the physically and challenged users</p>				
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## 7. STORAGE (5 hours)

<p>At the end of the lesson the student can:</p> <p>7.1. describe the characteristics of an internal hard disks</p> <p>7.2. discuss the purpose of network attached storage devices</p> <p>7.3. describe the various types of flash</p>	<p>The student can:</p> <p>7.1. explain the characteristics of internal hard disk and the purpose of network</p> <p>7.2. describe the various types of flash memory storage, cloud storage and its</p>	<p>Students participation in question and answer activity facilitated by teacher</p>	<p>Rubrics of class participation accomplished by professor.</p>	<p>a,b,c,d,e</p>	<p>a, b, c, d,e</p>	<p>Value of patience and respect Value of Hard work Value of</p>
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memory storage 7.4. describe cloud storage and explain its advantages 7.5. describe the characteristics of optical discs 7.6. differentiate among the various types of storage 7.7. identify the uses of different types of storage	advantages 7.3. explain the characteristics of optical disc and the difference among the various types of storage 7.4. determine the uses of different types of storage 7.5. enumerate the characteristics of an optical discs 7.6. explain the difference of various types of storage 7.7. appreciate the uses of storage	Individual/Group Project	Rubrics for Individual/Group Project			participation Creativity
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#### **8. OPERATING SYSTEMS AND UTILITY PROGRAMS (5 hours)**

At the end of the lesson the student can: 8.1. define system software and identify the two types of system software  8.2. summarize the features of several stand-alone operating systems: Windows, Mac OS, UNIX, Linux	The student can:  8.1 explain the system software and determine the two types of system software  8.2 discuss the features of several stand-alone OS  8.3 determine various server operating systems and	Students participation in question and answer activity facilitated by teacher  Lecture/ Discussion Demonstration	Rubrics of class participation accomplished by professor.  Quizzes	a,b,c,d,e	a, b, c, d,e	Value of patience and respect  Value of Hard work  Value of participation  Creativity
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8.3. identify various server operating systems  8.4. briefly describe several embedded operating systems  8.5. explain the purpose of several utility programs	explain the embedded operating systems  8.4 discuss the purpose of several utility programs  8.5 enumerate the purpose of several utility programs	Individual/Group Project	Rubrics for Individual/Group Project			
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<b>9. COMMUNICATIONS AND NETWORKS (5 hours)</b>						
At the end of the lesson the student can:  9.1. discuss the purpose of the components required for successful communications  9.2. describe the uses of computer communications  9.3. differentiate among different types of networks: LANs, MANs, WANs	The student can:  9.1 explain the purpose of the components required for successful communications and the uses of computer communications and the uses of computer communications  9.2 discuss the different types of networks and the purpose of communications software  9.3 discuss various types of lines for communications over the telephone	Students participation in question and answer activity facilitated by teacher  Lecture/ Discussion Demonstration  Individual/Group Project	Rubrics of class participation accomplished by professor.  Quizzes  Rubrics for Individual/Group Project	a,b,c	a, b, c, d,e	Value of patience and respect  Value of Hard work  Value of participation  Creativity

9.4. explain the purpose of communications software	9.4 network and the commonly used communications devices					
9.5. describe various types of lines for communications over the telephone network	9.4 explain the different ways to set up a home network and the various physical and wireless transmission media					
9.6. describe commonly used communications devices	9.5 identify the different lines that can be used for communications					
9.7. discuss different ways to set up a home network	9.6 identify and explain the different uses of communication devices					
9.8. describe various physical and wireless transmission media	9.7 enumerate the ways to set up home network					
	9.8 identify and classify the difference of physical and wireless transmission media					

#### **10. COMPUTER SECURITY AND SAFETY, ETHICS AND PRIVACY (5 hours)**

At the end of the lesson the student can: 10.1 Describes various types of Internet attacks and identify	The student can: 10.1 enumerate the different types of Internet attacks and	Students participation in question and answer activity facilitated by	Rubrics of class participation accomplished by professor.	a,b, c	a, b, c, d,e	Value of patience and respect
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<p>ways to safeguard against these attacks, including firewalls and intrusion detection software</p> <p>10.2 discuss techniques to prevent unauthorized computer access and use</p> <p>10.3 explain the ways to protect against software theft and information theft</p> <p>10.4 discuss ways to prevent health related disorders and injuries due to computer use</p> <p>10.5 discuss issues surrounding information privacy, including electronic profiles, cookies, spyware, and adware, spam, phishing, privacy laws, social engineering, employee monitoring and content filtering</p>	<p>knows how to safeguard against the different attacks</p> <p>10.2 apply the different ways to prevent from unauthorized computer access and use</p> <p>10.3 apply the different ways to protect against software and information theft</p> <p>10.4 apply the different ways to prevent health related disorders and injuries due to computer use</p> <p>10.5 understand the different issues surrounding privacy and security issues</p>	<p>teacher</p> <p>Lecture/ Discussion Demonstration</p> <p>Individual/Group Project</p>	<p>Quizzes</p> <p>Rubrics for Individual/Group Project</p>		<p>Value of Hard work</p> <p>Value of participation</p> <p>Creativity</p>
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<b>11. NUMBER SYSTEMS (5 hours)</b>						
11.1. Discuss the use of the arithmetic operation of number system.	11.1 Explain the use and conversation of the arithmetic operation of number system.	Students participation in question and answer activity facilitated by teacher	Rubrics of class participation accomplished by professor.	a,b,c,d,e	a, b, c, d,e	
		Lecture/ Discussion Demonstration	Quizzes			
	Lecture	52 hours				
	Exam	2 hours				
	Total Contact Hours	54 hours				

## **8. Course Evaluation**

### **Grading System:**

#### **MIDTERM**

Examination	-	50%
Quizzes/Assignments	-	20%
Activities/Requirements	-	20%
Attendance/ Participation	-	<u>10%</u>

#### **TOTAL**

**MTG+FTG/2=FG**

### **Schedule of Examination:**

Midterm	- October 16– 18, 2024
Final Term	- December 11–13, 2024
Classes End	- December 13, 2024

## References:

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## Supplemental

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