UNIVERSITY VISION

A trailblazer in arts, science and technology in the 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

To produce graduates with excellence and dignity in arts, science and technology.

UNIVERSITY OBJECTIVES

a. Enhance competency development, commitment, professionalism, unity and true spirit of service for public accountability, transparency and delivery of quality services;
b. Provide relevant programs and professional trainings that will respond to the development needs of the region;
c. Strengthen local and international collaborations and partnerships for borderless programs;
d. Develop a research culture among faculty and students;
e. Develop and promote environmentally-sound and market-driven knowledge and technologies at par with international standards;
f. Promote research-based information and technologies for sustainable development;
g. 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 graduate of BS Information Systems can:	a	b	c	d	e	f	g
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 of 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. It will discuss also the number system.

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
SKSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (2 hours)						
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
TOPIC 2: INTRODUCTION TO COMPUTERS (4 hours)						
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	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	Students participation in question and answer activity facilitated by teacher Discussion	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project	a, b,d	a, b, d, e	Value of Unity and Cooperation Value of participation

when working with computers 2.4. Discuss the uses of internet and world wide web 2.5. Distinguish between system software and application software 2.6. Differentiate among types, sizes and functions of computers in each category 2.7. Explain how home users, small office/home office users, mobile users, power users, and enterprise users each interact with computers 2.8. Discuss how society uses computers in education, finance, government, health care, science, publishing, travel, and manufacturing	working with computers 2.4. appreciate the uses of internet and world wide web 2.5. differentiate system software and application software 2.6. identify the different types, sizes, and functions of computer in each category 2.7. identify the different uses of computers by different users 2.8. appreciate the use of computers and its application in the society	Individual/Group Project	Quizzes			Value of Respect

TOPIC 3: THE INTERNET AND WORLD WIDE WEB AND (4 hours)						
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	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	Students participation in question-and-answer activity facilitated by teacher Discussion Individual/Group Project	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project Quizzes	c, d, e	a, b, d,e	Value of Participation Value of Patience and Respect Value of Hard work Creativity

required for Web publishing 3.8. Explain how e-mail, mailing lists, instant messaging, chat rooms, VoIP, FTP, and newsgroups and message boards work 3.9. Identify the rules of netiquette	different internet services and netiquette rules. 3.8. Appreciate the importance of different internet services 3.9. Apply the netiquette in their everyday lives					
TOPIC 4: APPLICATION SOFTWARE (4 hours)						
At the end of the lesson the student can: 4.1. Identify the four categories of application software 4.2. Identify the key features of widely used business programs	The student can: 4.1. Identify and differentiate the four categories and features of application software 4.2. Determine the key features of widely used business, graphics and multimedia, home, personal and educational	Students participation in question and answer activity facilitated by teacher Discussion Individual/Group Project	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project	c, d, e	a, b, c, d,e	Value of participation Value of Hard work Patience Creativity

	programs		Quizzes			
4.3. identify the key features of widely used graphics and multimedia programs	4.3. Describe the web applications					
4.4. identify the key features of widely used home, personal and educational programs	4.4. Identify the different types of application software used in communications					
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					
TOPIC 5: THE COMPONENTS SYSTEM UNIT (3 hours)						
At the end of the lesson the student can:	The students can:					
5.1. Differentiate among the various styles of	5.1. Determine the various styles of	Students participation in question and	Rubrics of class participation	c, d, e	a, b, c, d,e	Value of Participation

system units on desktop, computers, notebook computers, and mobile devices 5.2. Describe the control unit and arithmetic logic unit component of a processor, and explain the four steps in a machine cycle 5.3. Differentiate among the various types of memory 5.4. Describe the purpose and types of expansion slots and adapter cards 5.5. Differentiate between a port and a connector, and explain the differences among a USB port and other ports 5.6. Describe the types of buses in a	the system units on desktop, computers notebook and mobile devices 5.2. Explain the importance and functions of arithmetic logic unit, control unit and the four steps in machine cycle 5.3. Describe the various types of memory, expansion slots and card reader and its purpose 5.4. Determine different ports and connector, buses of a PC 5.5. Describe the importance of cleaning a system unit on a computer or mobile device 5.6. Differentiate the different buses in a computer	answer activity facilitated by teacher Discussion Individual/Group Project	accomplished by professor. Rubrics for Individual/Group Project Quizzes			Value of patience and respect Value of Hard work Creativity

computer 5.7. Explain the importance of cleaning a system unit on a computer or mobile device	system 5.7. Demonstrate and discuss the proper way of cleaning a system unit on a computer or mobile device					
TOPIC 6: UNDERSTANDING INPUT AND OUTPUT (3 Hours)						
At the end of the lesson the student can: 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	Students can: 6.1. Identify and differentiate keys, mouse, and buttons found on desktop computers that with mobile computers	Students participation in question and answer activity facilitated by teacher Discussion Individual/Group Project	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project Quizzes	c, d, e	a, b, c, d,e	Value of Participation Value of patience and respect Value of Hard work Patience Creativity

6.2. Describe different mouse types 6.3. Describe various types of touch screens and explain how a touch – sensitive pad works. 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 video input, scanners and reading devices, various biometric devices, and terminals 6.5. Explain the characteristics of LCD monitors, LCD screens, and CRT monitors 6.6. Summarize the various types of printers	6.2. Differentiate various type of sensitive pad and touch screen 6.3. Differentiate and explain the functionality of input and output devices 6.4. identify the different types of inputs and can explain how resolution affects the quality of images 6.5. identify and differentiate the characteristics of different types of monitors 6.6. identify the different types of printers					

6.7. Identify the purpose and features of input / output devices 6.8. Identify input and output options for physically challenged users	6.7. appreciate the uses of input and output devices 6.8. appreciate the importance of input and output devices for the physically and challenged users					
TOPIC 7. STORAGE (3 hours)						
At the end of the lesson the student can: 7.1. describe the characteristics of an internal hard disks 7.2. discuss the purpose of network attached storage devices 7.3. describe the various types of flash memory storage 7.4. describe cloud	The student can: 7.1. explain the characteristics of internal hard disk and the purpose of network 7.2. describe the various types of flash memory storage, cloud storage and its advantages 7.3. explain the characteristics of optical disc and the difference among the various types of storage 7.4. determine the	Students participation in question and answer activity facilitated by teacher Discussion Individual/Group Project	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project Quizzes	a,b,c,d,e	a, b, c, d,e	Value of patience and respect Value of Hard work Value of participation Creativity

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	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					
TOPIC 8: OPERATING SYSTEMS AND UTILITY PROGRAMS (3 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 8.3. identify various server operating systems	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 explain the embedded operating	Students participation in question and answer activity facilitated by teacher Synchronous / Asynchronous Lecture / Discussion Individual/Group Project	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project Quizzes Video Presentation	a,b,c,d,e	a, b, c, d,e	Value of patience and respect Value of Hard work Value of participation Creativity

8.4. briefly describe several embedded operating systems 8.5. explain the purpose of several utility programs	systems 8.4 discuss the purpose of several utility programs 8.5 enumerate the purpose of several utility programs					
TOPIC 9: COMMUNICATIONS AND NETWORKS (4 hours)						
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 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	Students participation in question and answer activity facilitated by teacher Synchronous / Asynchronous Lecture / Discussion Individual/Group Project Video Presentation	Rubrics of class participation accomplished by professor. Rubrics for Individual/Group Project Quizzes	a,b,c	a, b, c, d,e	Value of patience and respect Value of Hard work Value of participation Creativity

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

TOPIC 10: COMPUTER SECURITY AND SAFETY, ETHICS AND PRIVACY (4 hours)						
At the end of the lesson the student can: 10.1 Describes various types of Internet attacks and identify ways to safeguard against these attacks, including firewalls and intrusion detection software 10.2 discuss techniques to prevent unauthorized computer access and use 10.3 explain the ways to protect against software theft and information theft 10.4 discuss ways to prevent health related disorders and injuries due to computer use 10.5 discuss issues surrounding	The student can: 10.1 enumerate the different types of Internet attacks and knows how to safeguard against the different attacks 10.2 apply the different ways to prevent from unauthorized computer access and use 10.3 apply the different ways to protect against software and information theft 10.4 apply the different ways to prevent health related disorders and injuries due to computer use 10.5 understand the different issues	Students participation in question and answer activity facilitated by teacher Synchronous / Asynchronous Lecture / Discussion Students Presentation	Rubrics of class participation accomplished by professor. Rubrics for Student Presentation Quizzes	a,b, c	a, b, c, d,e	Value of patience and respect Value of Hard work Value of participation Creativity

information privacy, including electronic profiles, cookies, spyware, and adware, spam, phishing, privacy laws, social engineering, employee monitoring and content filtering	surrounding privacy and security issues					
TOPIC 11. ENTERPRISE COMPUTING						
11.1 Discuss the special information requirements of an enterprise-sized organization 11.2 Identify information systems and software used in the functional units of an enterprise 11.3 Describe and list general purpose and integrated information systems used throughout an enterprise	**The student can** 11.1 enumerate the special information requirements of an enterprise – sized organization 11.2 enumerate the information system used in the different functional units of an enterprise 11.3 appreciate the use of general purpose and integrated information systems used in	Students participation in question and answer activity facilitated by teacher Synchronous / Asynchronous Lecture / Discussion Students Presentation	Rubrics of class participation accomplished by professor. Rubrics for Student Presentation Quizzes	a,b,c, d	a, b, c, d,e	Value of patience and respect Value of Hard work Value of participation Creativity

	an enterprise					
11.4 Describe and list types of technologies used throughout an enterprise	11.4 enumerate the different types of technologies used in an enterprise					
11.5 Describe virtualization, cloud computing, and grid computing	11.5 differentiate virtualization, cloud computing and grid computing					
11.6 Discuss the computer hardware needs and solutions for an enterprise	11.6 explain the hardware needs and solutions for an enterprise					
11.7 Determine why computer backup is important and how it is accomplished	11.7 appreciate the importance of computer backup					
11.8 Discuss the steps in a disaster recovery plan	11.8 appreciate the disaster recovery plan					
TOPIC 12: NUMBER SYSTEM (18 hours)						
12.1. Discuss the use of the arithmetic operation of number system.	11.1 Explain the use and conversation of the arithmetic operation of number system.	Synchronous / Asynchronous Lecture / Discussion	Quizzes Activities	a,b,c,d,e	a, b, c, d,e	
	Lecture	92 hours				
	Exam	2 hours				
	Total Contact Hours	94 hours				

8. Course Evaluation

Grading System:

MIDTERM	
Exam	- 50%
Quizzes/ Assignments/ Participation	–25%
Requirements / Reports	- 20%
Participation	- 5%
TOTAL	**100%**

MTG+FTG/2=FG

Schedule of Examination:

Midterm	**-**
Final Term	**-**
Classes End	-

References:

O'leary, T. J., & O'leary, L. I. (2011). *Computing Essentials 2011: Making IT Work for you.* Philippines: McGraw HIll.

Shelly, G. B., Vermaat, M. E., & et.al. (2012). *Discovering Computer Fundamentals: Your Interactive Guide to Digital World.* Cenage Learning.

Shelly Cashman series (2010) Introduction to Computers. Philippines: Cengage Learning Asia Pte Ltd.

Pinard, & Romer. (2012). *CMPTR.* United States of America: Cengage International.

Pinard, Robin M. Romer, Deborah Morley Cmptr 3. Boston, MA : Delmar Thomson Learning, 2017

Supplemental

Computer Number Systems and its types. (n.d.). Retrieved from includehelp.com: https://www.includehelp.com/computer-number-systems.aspx

Clark, P. (2015, June 02). *Teachers Discovering Computers* . Retrieved from slideplayer.com: http://slideplayer.com/slide/5925551/

Computer Number Systems and its types. (n.d.). Retrieved from includehelp.com: https://www.includehelp.com/computer-number-systems.aspx

Harle, D. R. (n.d.). *Computer Fundamentals: Number Systems.* Retrieved from cl.cam: https://www.cl.cam.ac.uk/teaching/1415/CompFund/NumberSystemsAnnotated.pdf

Introduction to Computing Explorations in Language, Logic, and Machines David Evans University of Virginia (2011) https://computingbook.org/FullText.pdf

Fundamentals of Information Systems, Sixth Edition - PowerPoint PPT Presentation. (2015). Retrieved from powershow.com: https://www.powershow.com/view/3b4c9f-MTAxM/Fundamentals_of_Information_Systems_Sixth_Edition_powerpoint_ppt_presentation

Telecommunications and Networks. (n.d.). Retrieved from slideplayer.com: http://slideplayer.com/slide/9153506/

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