Republic of the Philippines
SULTAN KUDARAT STATE UNIVERSITY
College of Computer Studies
Isulan, Sultan Kudarat
First Semester, S.Y. 2024 - 2025

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 in Information Technology can:	a	b	c	d	e	f	g
a. innovate technological concepts and ideas underpinning desired IT solutions;	/	/	/	/	/	/	/
b. administer competently the computer networks, systems development, software applications, hardware and maintenance;		/	/	/	/	/	/
c. design industry-based applications, infrastructures and technologies that will promote the advancement and development of the community	/	/		/	/	/	/
d. Adopt to various national and international industries standards in the practice of the profession; and		/	/	/	/	/	/
e. demonstrate professionalism in the social, environmental and legal aspects of information technology.	/		/		/		/

1. Course Code : CC112
2. Course Title : Programming 1
3. Prerequisite : NONE
4. Credits : 3 UNITS

5. Course Description:

The course covers the use of general-purpose programming language to solve problems. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using fundamentals programming constructs.

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. analyze and design strategies for solving basic programming problems;	/	/	/	/	/
b. use primitive data types, selection statements, loops, function to write programs;	/	/	/	/	/
c. design program with decision – making capabilities	/	/	/	/	/
d. develop programs to solve a variety of problems in math , science , business and games;	/	/	/	/	/

e. use the step-wise refinement approach;	/	/	/	/	/
f. use functions and procedures	/	/	/	/	/
g. manipulate string values of the variable	/	/	/	/	/
h. open, write and read sequential access file	/	/	/	/	/
i. use arrays to store , process, and sort data;	/	/	/	/	/
j. appreciate the importance of computer programming	/	/	/	/	/
k. take responsibility on the proper use of computer and computer programs; and				/	/
l. Manifest creativity, collaboration, love and respect for others.				/	/

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
TOPIC 1: SKSU VMGO, CLASSROOM POLICIES, COURSE OVERVIEW, COURSE REQUIREMENTS, GRADING SYSTEM (1 hour)						
1. Discuss the VMGO of the university, classroom policies, scope of the course, course requirements and grading system	1.1 Student can be aware of and appreciate of the university's VMGO, classroom policies, course overview, requirements and grading system.	Individual participation in class discussion and group presentation	Group and individual discussions		d,e	Value of appreciation

TOPIC 2: INTRODUCTION TO PROGRAMMING (10 hours)						
2.1. History of Programming Languages 2.2. Basic Steps in Creating Program	The student can: 2.1. Trace the evolution of Programming Languages 2.2. Differentiate and describe the three (3) types of control structures 2.3. Define the basic programming terminologies such as programming, programming language, program. 2.4. Write a program using pseudo code, algorithm and flowchart	Discussions and Lectures Problem Solving using the following • Pseudo code • Algorithm • Flowchart • Desk Checking	Group and individual discussions	a, j	a, d, e	Value of listening and appreciation
TOPIC 3: INTRODUCTION TO C++ PROGRAMMING (12 hour)						
3.1. Structures of Program 3.2. C++ Basic Program	The student can: 3.1. Analyze the structures of a program 3.2. Identify and	Discussions and Lectures Problem Solving	Quiz Online Quizzes	a, b, c ,d	a, b, c, d, e	Value of listening Value of appreciation

• Preprocessor Directives • Header Files • Program Statements • Using cout • Comments and comment syntax • Forms and Syntax • Library Functions • Statements • Functions Header and Body of the Main Program • cin statements • insertion and extraction stream operators • comments statements	familiarize the different parts of the C++ program 3.3. create a basic C++ program 3.4. discuss the meaning preprocessor directives 3.5. identify the different header files in c++; 3.6. discuss a program statement 3.7. create a c++ program using cout 3.8. use comments in creating c++ program 3.9. apply the proper to write a C++ program 3.10. enumerate and use the different c++ library functions.	Homework Activities Writing a computer program online using code chum or	Online Activity using Codechum Creating video presentation of the output			Value of exploration Value of memory, retention and familiarization
TOPIC 4. VARIABLES (10 hours)						
4.1. Variable Definition and	The student can:	Discussion/Lecture	Quiz		a, b, c, d, e	

declaration 4.2. Different types of variable 4.3. Assignment Statements 4.4. Rules in naming variables 4.5. Constant Variables 4.6. Input with cin 4.7. Assigning Initial Values to Variables 4.8. Types of conversion 4.9. Arithmetic, Comparison and Logical Operators	4.1. define and declare a variable in C++ 4.2. differentiate the different variables 4.3. use assignment statement in creating a C++ program 4.4. familiarize the basic rules in naming simple variables 4.5. create a C++ program using constant variables 4.6. create a C++ program using cin syntax 4.7. learn how to put valid initial value to memory variables 4.8. differentiate and use the implicit and explicit type of conversions 4.9. evaluate a statement using the order of precedence	Online Activities Home Based Problem Solving using their own desktop Presentation of program source code and output online or by phone call	Home based solving of problems using their own desktop Online Hands on Activities	a, b, c, d, e, f, g, h, I ,j, k, l		Unity and teamwork Value of handwork Value of Exploration

4.10. getline() ignore() functions 4.11. formatting floating point numbers	4.10. use and familiarize the different operators 4.11. use the built in functions in C++ program 4.12. format floating point numbers using the fixed, scientific and setprecision() stream manipulators					
TOPIC 5. SELECTION STRUCTURE (15 hours)						
5.1. if, else if, and nested else if statement 5.2. The switch statements	The student can: 5.1. create a C++ program using if, else if, and nested else if statement 5.2. create a C++ program using switch statement	Discussion/Lecture Online Activities Home Based Problem Solving using their own desktop Presentation of program source code and output online or by phone call	Quiz Home based solving of problems using their own desktop Online Hands On Activities	a, b, c, d, e, g, h, I ,j, k, l	a, b, c, d, e	Unity and teamwork Value of handwork Value of Exploration Value of Focus
TOPIC 6. REPETITION CONTROL STRUCTURE						
6.1. while statement 6.2. do-while	The student can:	Written Quiz / Exam	Quiz / Exam Scors		a, b, c, e	

6.3. for loop	6.1. Explain the fundamental concepts of repetition control structures, (while, do-while, and for loops) and their applications in C++ 6.2. Differentiate between while, do-while, and for loops, and select the appropriate loop structure. 6.3. Write the C++ programs that effectively implement while, do-while, and for loops to solve various problems 6.4. Debug and troubleshoot common errors related to loop implementation in C++ programs 6.5. Apply repetition control structures to develop solutions for real –	Class Discussion Programming Activities Code Reviews Error Analysis	Class Participation Working C++ Programs Code Quality Corrected Debugged Code, Error Identification	a, b, c, d, e, f, g, h, I ,j, k, l		Value of determination Value of helping others

	world problems that require iterative process.					
TOPIC 7. ARRAYS (9 hours)						
7.1. C++ Array Fundamentals 7.2. Defining Arrays 7.3. Array Elements, Accessing Array Elements and Averaging Array Elements 7.4. Initializing Arrays 7.5. One – Dimensional Array	The students can: 7.1. discuss the meaning of array 7.2. define array in C++ 7.3. identify the meaning of array elements, and how to use it in C++ 7.4. initialize array write one - dimensional array c++ program	Asynchronous / Synchronous Discussions and Lectures Home Work activity Online Hands-On activity	Graded Question and Answer Activities Rubrics for Home work Activity and Online Activity	a, b, c, d, e, f, g, h, I ,j, k, l	a, b, c, e	Value of determination Value of helping others
Total number of hours with laboratory (90 hours)						

Lectures	36 hours
Laboratory	54 hours
Examination	4 hours

Grading System:

MID-TERM and **FINAL-TERM**

Quiz / Assignment/ Participation	15%
Hands On Activities	35%
Exam	50%
TOTAL	**100%**

8. Course Evaluation

Course Requirements **:** 100% running program

Schedule of Examination:

Midterm	- October 17 - 19, 2024
Final Term	- December 11 - 13, 2024
Classes End	- December 13, 2024

References:

Textbooks:

D.S Malik C++ Programming form Problem Analyis
Paul J. Deitel, Java How to Program: Early Objects, 4th Edition
Paul J. Deitel, Java How to Program: Early Objects, 8th Edition
Paul J. Deitel, Java How to Program: Early Objects, 9th Edition
Michael Dawson, Beginning C++ Through Game Programming
Bjarne Stroustrup, The C++ Programming Language, 4th Edition
Steve Tale, C++: The Ultimate Beginners Guide to C++ Programing
Siddhartha Rao,C++ in One Hour a Day, Sams Teach Yourself (8th Edition)

Timothy Short, C++: Beginner to Pro Guide (C++ Programming 2016)

Nathan Clark,C++: Programming Basics for Absolute Beginners (Step-By-Step C++ Book 1)

Supplemental:

http://www.csulb.edu/colleges/coe/cecs/views/programs/undergrad/grade_prog.shtml
https://netbeans.org/kb/docs/java/quickstart.html
https://www.howtoforge.com/learning-c-cplusplus-step-by-step
https://www.udemy.com/complete-c-programming-step-by-step-tutorial/
http://www.c4learn.com/c-programming/learn-c-programming-language-step-by-step-tutorials/

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