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| **Course Code** | CSU3200 |
| **Level** | 3 |
| **Course Title** | Introduction to Computer Programming |
| **Credit value** | 2 |
| **Core/Optional** | Core |
| **Prerequisites** | 03 A/Level Passes in Science subjects or in Foundation in Science/ Foundation Courses |
| **Hourly breakdown** | **Theory** | **Practical****hours** | **Independent Learning** | **Assessments** | **Total hrs** |
| 16 Sessions x 2 hrs = **32 hrs** | 5 DS x 3 hrs =  **15 hrs** | Lab 1 x 3 hrs =  **03 hrs.** | * Sessions (16 x 3)= 48 hrs
* Online = 1.5 hrs
* Lab (3 x 0.5) = 1.5 hrs

Total = **51 hrs** | * Continuous Assessments (CA) I = **1hr**
* Practical assessments (PA) : **01 hr.**
 | **103 hrs** |
| **Course Aim/s.** | To identify the concept of Computer Programming and its important features, selection statements, repetitions, Arrays, Strings, Functions and Structure. Enhance knowledge & familiarize the students in basic variable’s Storage locations, allocating memory, file handling and error handling in C language. |
| **PLOs addressed by course**  | **PLO1: Knowledge:** Explain the fundamental, principles and broader knowledge pertaining to the chosen science disciplines offered for the degree.**PLO2: Practical Knowledge and Application**. Demonstrate the competency to use the knowledge and practical skills appropriately.**PLO4: Individual Work, Team Work and Leadership**: Demonstrate the competency in working independently and in groups in addressing issues in multi-disciplinary environments and completing the tasks on time through collaborative learning while exhibiting leadership. **PLO5: Creativity and Problem Solving:** Identify and analyze problems using quantitative and/or qualitative approaches using scientific methodology to provide valid conclusions. **PLO9: Lifelong Learning**: Develop the capacity to foresee new trends and their impacts and continuously update knowledge and develop skills willingly to meet those future challenges. |
| **Course Learning Outcomes (CLO)** | At the completion of course, student will be able to:CLO1: Explain about programming, level of languages, key features , identify the data types, declaring the variable and constant in the C Program (PLO1)CLO2: Explain about the Standard functions of input and output in the C language (PLO1 & 2).CLO3: Explore various operators, their precedence, control structures, conditional statements and repetitions in C (PLO1 & 2).CLO4: Comprehend how to define the array, pointers and functions in C (PLO 1 & 2).CLO5: Explore about the multidimensional arrays, string manipulating, parameter types use of functions and scope of identifiers (PLO1,2& 5).CLO6: Comprehend the concepts of storage classes (PLO1,2& 9). CLO7: Explore what is memory allocation and open/close the file for reading or writing (PLO1,2,5& 9).CLO8: Writing of C Language programs for different problems and executing them using a Computer (PLO1 ,2,4,5 & 9). CLO9**:** Identify the types of errors and how to correct them in C program (PLO1 ,2& 5). |
| **Content** **(Main topics, sub topics)**  | Introduction to Computer Programming, Introduction to C Programming, The Data Types and Variables, Input and Output Functions, Operators and Expression, Selections in C, Repetitions in C, Arrays in C, Strings in C, Pointers in C, Functions in C, Structures and Unions in C, Storage Classes, Allocating Memory, File Handling in C, Error Handling. |
| **Teaching Learning methods (TL)** | Self-learning/independent learning of self - study (IL)* Learning the course contents in course materials in print and web-based materials (SS)
* Learning through practical exercises & group work projects (PR) & (GP)
* Additional reading materials/ recommended reading (RE)

Contact sessions* Day schools (discussion sessions) (Non-compulsory)
* Laboratory practical exercises (PR) (Non-compulsory)
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| **Assessment strategy** | Overall Continuous Assessment Mark (OCAM): 40 % | Final Assessment: 60% |
| Continuous Assessment (CA): **01 hr**.Practical Assessment (PA): **01 hr**. OCAM computation: OCAM= 60% of best CA/PA + 40% of other CA/PA | Final Evaluation Theory: **02 hrs**.  |
| **Recommended** **Readings:** | * + - 1. Gottfried,Byron.S,Chhanbra,Jitender Kumar . (2006) .*Programming with C (2th Ed)*.
			2. Rajaraman,V .(1994). *Computer Programming in C.*
			3. Gooking, Dan. (2004). *C programming: all in one*
			4. Kamththane, Ashok N. (2010). *C Programming: Test your skills*.
			5. King, *K.N. C Programming; A modern approach*
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