

Course Title	Programming Fundamentals
Course Code	CC-112
Credit Hours	3
Category	Computing core
Prerequisite	None
Co-Requisite	None
Follow-up	Object Oriented Programming, Theory of Programming Languages, Web Technologies
Course Description	Introduction to problem solving, a brief review of Von-Neumann architecture, Introduction to programming, role of compiler and linker, introduction to algorithms, basic data types and variables, input/output constructs, arithmetic, comparison and logical operators, conditional statements and execution flow for conditional statements, repetitive statements and execution flow for repetitive statements, lists and their memory organization, multi-dimensional lists, introduction to modular programming, function definition and calling, stack rolling and unrolling, string and string operations, pointers/references, static and dynamic memory allocation, File I/O operations
Text Book(s)	Tony Gaddis, Starting with C++: from control structures through objects, 7th Ed., Addison-Wesley, 2012, ISBN 978-0-13-257625-3
Reference Material	Starting out with Python, 4th Edition, Tony Gaddis. Starting out with Programming Logic & Design, 4th Edition, Tony Gaddis, The C Programming Language, 2nd Edition by Brian W. Kernighan, Dennis M. Ritchie Object Oriented Programming in C++ by Robert Lafore Introduction to Computation and Programming Using Python: With Application to Understanding Data, 2nd Edition by Guttag, John Practice of Computing Using Python, 3rd Edition by William Punch & Richard Enbody C How to Program, 7th Edition by Paul Deitel & Harvey Deitel Problem Solving and Program Design in C++, 7th Edition by Jeri R. Hanly & Elliot B. Koffman