<table>
<tr><td colspan="2">DEREE COLLEGE SYLLABUS FOR: ITC 2088 INTRODUCTION TO PROGRAMMING 3/1.5/3</td></tr>
<tr><td>(Updated Fall 2026)</td><td>UK LEVEL: 4
UK CREDITS: 15</td></tr>
<tr><td>PREREQUISITES:</td><td colspan="2">None.</td></tr>
<tr><td>CATALOG DESCRIPTION:</td><td colspan="2">Problem solving; problem analysis; top-down design of algorithms; implementation; testing and debugging techniques; documentation. Structured programming language constructs: data types, variables, constants, parameters, input and output, selection, iteration, file handling, arrays, elementary sorting and searching algorithms, data structures, dynamic memory allocation. Modular programming.</td></tr>
<tr><td>RATIONALE:</td><td colspan="2">The course introduces students to computer programming concepts with an emphasis on the design and implementation of well-documented, structured and logically correct programs. The course is suitable for students with no or little programming experience, who wish to understand the fundamental principles of programming.</td></tr>
<tr><td>LEARNING OUTCOMES:</td><td colspan="2">As a result of taking this course, the student should be able to:
1. Demonstrate understanding of fundamental programming concepts and algorithmic solutions to basic problems using programming techniques.
2. Demonstrate understanding of how to trace source code and correctly predict the results.
3. Make use of basic data structures and search/sort algorithms to design, implement, test, and debug programs.
4. Develop well documented, structured, and maintainable programs.</td></tr>
<tr><td>METHOD OF TEACHING AND LEARNING:</td><td colspan="2">In congruence with the teaching and learning strategy of the college, the following tools are used:
• Lectures and class discussions.
• Laboratory practical sessions.
• Homework assignments.
• Office hours held by the instructor to provide further assistance to students.
• Use of library facilities for further study and preparation for the exams
• Use of the Blackboard course management platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, formative quizzes and online submission of assignments.</td></tr>
<tr><td>ASSESSMENT:</td><td colspan="2">Summative:
1st assessment: Midterm Examination
In-class, computer-based coding exam with access to approved resources — 30%
2nd assessment: Portfolio
Collection of in-class activities, quizzes, short tasks completed throughout the semester. — 10%
Final assessment: Final Examination
In-class, computer-based coding exam with access to approved resources — 60%

Formative:
In-class and take-home short problems — 0%</td></tr>
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	The formative assessments aim to prepare students for the summative assessments and expose them to teamwork. The 1st summative assessment tests the LOs 1, 2, 4. The 2nd summative assessment tests the LOs 1-4. The final summative assessment tests the LOs 1-4. *The final grade for this module will be determined by averaging all summative assessment grades, based on predetermined weights for each assessment. If students pass the **final summative assessment,** which tests all Learning Outcomes for this module, and the average grade for the module is 40 or above, students are not required to resit any failed assessments.*
INDICATIVE READING:	**REQUIRED READING:** 1. Szuhay, J. (2022). Learn C Programming (latest edition). Packt Publishing. [Perlego] 2. Instructor notes. **RECOMMENDED READING:** 1. Sedgewick R., Algorithms in C, Addison-Wesley. 2. Cheng, H. H. (2010). *C for engineers and scientists: An interpretive approach*. New York: McGraw-Hill Higher Education. 3. Programming Pearls, Bentley J. , Addison-Wesley 4. Kernighan, B. W., & Ritchie, D. M. (1988). *The C programming language.* Englewood Cliffs, NJ: Prentice Hall.
INDICATIVE MATERIAL: *(e.g. audiovisual, digital material, etc.)*	**REQUIRED MATERIAL:** N/A **RECOMMENDED MATERIAL:** **1.** Ted Jensen, A tutorial on pointers and arrays in C **2.** Brian Kernighan, Programming in C- A Tutorial.
COMMUNICATION REQUIREMENTS:	Daily access to the course's site on the College's Blackboard CMS. Communication using proper written and oral English. Use of word processor and spreadsheet for documentation of assignments.
SOFTWARE REQUIREMENTS:	MS-Office, Blackboard CMS Any standard C compiler Visual Studio Code
WWW RESOURCES:	• https://linux.die.net/man/1/ctopy • https://algorithm-visualizer.org/ • http://www.cprogramming.com/
INDICATIVE CONTENT:	Programming Fundamentals • Introduction to computing, programming, and problem-solving • Variables, data types, expressions, and input/output operations • Program development, testing, and debugging techniques Program Design and Data Organization • Selection, iteration, and code tracing • Arrays, data organization, and basic data structures • Modular and procedural programming using functions Algorithms and Software Development • Searching, sorting, and algorithmic problem-solving • Algorithm complexity and performance considerations • Code documentation, maintainability, and software development practice.