

CS110-3 **Procedural Programming** - Syllabus Outline

Department: Department of Mathematics, Physics and Engineering

Course Prefix/Number: C S 1103

- I. Catalog Description: Introduces the fundamental concepts of structured programming. Topics include software development and methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging.

- II. Prerequisites: Two years of high school algebra or MATH 1073.

- III. Expanded Course Description: The basic concepts of structured programming in a procedural language are addressed. The core elements of programming are covered including control statements, primitive data elements and structures, program structure using functions, basic input and output, and the software development process. Emphasis is placed on the developing the ability to write well formed and structured programs. Important also is a thorough coverage of the essential elements of the programming language. The student is expected to be able to read and write programs using structured programming techniques.

- IV. Intended Student Learning Outcomes: At the conclusion of the course the student will be able to:
 - Students will demonstrate the ability to explain the nature of procedural programming and the process of converting source code to an executable.

 - Students will demonstrate the ability to write sequential code by developing applications that implement algebraic type equations.

 - Students will demonstrate the ability to use control structures such as if statement, switch statement, for loop, while loop and others by developing applications that uses these statements and nested control statements.

 - Students will demonstrate the ability use arrays by developing applications that initialize, manipulate and displays arrays.

 - Students will demonstrate the ability to create expressions by developing applications that implement simple algebraic equation and more complex control logic.

- Students will demonstrate the ability to use structures by developing applications that initialize, manipulates and displays structures.
- Students will demonstrate the ability to use pointers by developing applications that incorporate pointers to access and manipulate both simple and complex data types.
- Students will demonstrate the ability to pass parameters by developing applications that passes data to functions using both passing by value and passing by pointer.
- Students will demonstrate the ability to write recursive functions.
- Students will demonstrate the ability to use files by developing applications that reads and writes data to and from a sequential file.

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:

- a) Course Requirements
- b) Required Text(s)
- c) Bibliography

VI. Academic Honesty: Cheating, plagiarism (submitting another person's materials or ideas as one's own), or doing work for another person who will receive academic credit are all-impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

VII. Students With Disabilities Policy: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act (ADA) and other federal, state, and local laws relative to the provision of disability services. Students with disabilities attending Tarleton State University may contact the Office of Disability Services at (254) 968-9478 to request appropriate accommodation.

Furthermore, formal accommodation requests cannot be made until the student has been officially admitted to Tarleton State University.