TCSS 142 Master Syllabus
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Catalog Description

Introduces the design and implementation of computer programs. Includes an introduction to program structure, data types, and object-oriented design. Prerequisite: minimum of 2.0 in TQS 120 or MATH 120, 68% on MPT-A test, 75% on MATHEC placement test, or a score of 2 on the AP exam.

Preconditions

- Analyze basic arithmetic and geometry problems.
- Correctly employ basic arithmetic and geometry knowledge to solve practical problems.
- Analyze basic algebra problems.
- Correctly employ basic algebra knowledge to solve practical problems.

Student Learning Goals (to be added to syllabus handed out to students)

- Identify correct syntax and semantics of a high-level language.
- Analyze and explain the behavior of simple programs involving the fundamental programming constructs (variables, types, expressions, assignment, simple I/O, conditional and iterative control structures, functions and parameter passing, structured decomposition).
- Develop and implement programs involving the fundamental programming constructs (variables, types, expressions, assignment, simple I/O, conditional and iterative control structures, functions and parameter passing, structured decomposition).
- Analyze and explain the behavior of programs that use each of the following: arrays, classes, objects, and strings.
- Develop and implement programs that use each of the following: arrays, classes, objects, and strings.

CSS Degree Student Learning Outcomes that this course contributes to (to be added to syllabus handed out to students)

a. an ability to apply knowledge of computing and mathematics appropriate to the discipline;

b. an ability to analyze a problem, identify and define the computing requirements appropriate to its solution;

c. an ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs

UWT Student Learning Goals that this course contributes to (to be added to syllabus handed out to students)

Inquiry and Critical Thinking
Students will acquire skills and familiarity with modes of inquiry and examination from diverse disciplinary perspectives, enabling them to access, interpret, analyze, quantitatively reason, and synthesize information critically.

Topics covered

- Basic syntax and semantics of a high-level language
- Variables, types, expressions, and assignment
- Procedural decomposition of problems
- Defining methods: parameters, return values
- conditional and iterative control structures
- Input/output: console, file
- Arrays (one-dimensional)
- Use of standard library objects
- User-defined classes

Additional Information

This course has an associated lab section that meets once per week in addition to the 2 lectures per week.

The textbook used in recent years:

> *Building Java Programs Second Edition,* Stuart Reges and Marty Stepp, Addison Wesley, ISBN-10: 0-13-609181-4

Exams have traditionally been held in an INSTTECH general development computer lab such as DOU 110, but a reservation for this must be requested each quarter.