

CS2213 Object Oriented Programming Syllabus Outline

Department: Department of Mathematics, Physics and Engineering

Course Prefix/Number: C S 2213

- I. Catalog Description: Applies the object-oriented programming paradigm using one or more object oriented programming languages, focusing on the definition and use of classes, interfaces, data encapsulation, inheritance, and polymorphism. An introduction to object oriented design is presented.
- II. Prerequisites: CS 1103.
- III. Expanded Course Description: The basic concepts of Object Oriented Programming (OOP) will be introduced: data encapsulation, inheritance, and polymorphism. The creation of classes and interfaces to support OOP will be studied. The concepts will be introduced and reinforced through the use of C++ and Java. The focus will be on the basic OOP concepts and how they are supported using these languages. OOP is driven by object oriented analysis and design. These concepts will be introduced to the extent needed to present the OOP principles.
- IV. Intended Student Learning Outcomes: At the conclusion of the course the student will be able to:
 - Students will demonstrate the ability to create Object-Oriented (OO) programs by developing applications that use a modern OO programming language.
 - Students will demonstrate the ability to use data encapsulation by developing applications that hide/reveal appropriate variables and methods.
 - Students will demonstrate the ability to use constructors/destructors by developing applications that provide multi-parameter constructors to initialize an object.
 - Students will demonstrate the ability to use containment and inner classes by developing applications that embed additional functionality using these techniques.
 - Students will demonstrate the ability to use inheritance by developing applications that use multiple classes in a hierarchal manner.

- Students will demonstrate the ability to use polymorphism by developing applications that incorporates polymorphic behavior in derived classes.
 - Students will demonstrate the ability to overload and override methods by developing applications that utilize these techniques.
 - Students will demonstrate the ability to use interfaces by developing applications that use interface for polymorphic and callback purposes.
 - Students will demonstrate the ability to use exception handling by developing applications that handles program exceptions using try and catch blocks.
- 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 of 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.