



Course Information

Course Title	Advanced C++ Programming
Course Prefix, Num. and Title	ITSE 2331 - Advanced C++ Programming
Division	Technology and Business
Department	Computer Science
Course Type	WECM Course
Course Catalog Description	Further application of C++ programming techniques including file access, abstract data structures, class inheritance, and other advanced techniques.
Pre-Requisites	ITSE 1307
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	3:2:2
Lab/Other Hours	
Equated Pay Hours	3
Lab/Other Hours Breakdown: Lab Hours	2
Lab/Other Hours Breakdown: Clinical Hours	0
Lab/Other Hours Breakdown: Practicum Hours	0
Other Hours Breakdown	0

Approval Signatures

Title	Signature	Date
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

Pointer Basics
Class and Object Oriented Programming
OOP with Pointers
Passing Data and References
Multi-Dimensional Arrays and Pointers
Characters, Strings, and String class
Polymorphism and Virtual Functions
Data Structures
Searching, Sorting, Linked Lists
File and I/O Operation

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

Develop well documented programs containing complex data structures; incorporate complex input/output file handling techniques; create classes and objects in programs; and incorporate advanced C++ techniques.

Methods of Assessment:

Individual/Group Assignments
Individual/Group Projects
Reading Assignments
Presentations
Lab Works/Assignments
Quizzes/Tests/Exams

Required text(s), optional text(s) and/or materials to be supplied by the student:

Like Starting out with C++: Early Objects, 8th edition, Tony Gaddis (et al), Addison Wesley, © 2013. ISBN-13: 978-0-133360929

USB Drive

High-Speed internet connection

Suggested Course Maximum:

20

List any specific or physical requirements beyond a typical classroom required to teach the course.

- Computer for each student
- Like Visual Studio or Eclipse C++ compiler integrated development environment installed

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Course Requirements:

Programming Assignments 20-40%

Final Project 20-80%

Midterm Exam 0-40%

Final Exam 0-60%

Attendance & Participation 0-20%

Grading System:

100 -90 = A

89 - 80 = B

79 - 70 = C

69 - 60 = D

and below = F

Curriculum Checklist:

Administrative General Education Course (from ACGM, but not in WCJC Core) – No additional documents needed.

Administrative WCJC Core Course. Attach the Core Curriculum Review Forms

Critical Thinking

Communication

Empirical & Quantitative Skills

Teamwork

Social Responsibility

Personal Responsibility

WECM Course -If needed, revise the Program SCANS Matrix and Competencies Checklist