Wharton County Junior College

Administrative - Master Syllabus
COVER SHEET

***Purpose**: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.*

Course Title – Programming Fundamental III
Course Prefix and Number – COSC 2436
Department – Computer Science **Division** – Tech &Bus
Course Type: (check one)

- ☒ Academic General Education Course (from ACGM – but not in WCJC Core)
- ☐ Academic WCJC Core Course
- ☐ WECM course (This course is a Special Topics or Unique Needs Course: Y☐ or N☐)

Semester Credit Hours # : Lecture hours# : Lab/other hours # 4:3:2

Equated Pay hours for course - 4

Course Catalog Description - --Further application of programming techniques, introducing the fundamental concepts of data structures and algorithms using C++ in Visual Studio.NET environment Topics include recursion, fundamental data structure (including stacks, queues, link lists, hash tables, trees, and graphs), and algorithmic analysis.

Prerequisites/Corequisites - COSC1437

List Lab/ Other Hours?
Lab Hours 2
Clinical Hours
Practicum Hours
Other (list)

Approvals – the contents of this document have been reviewed and are found to be accurate.

Prepared by Stephanie Dees	Signature Stephanie Dees	Date 11/23/2009
Department Head Stephanie Dees	Signature Stephanie Dees	Date 11/23/2009
Division Chair Stephanie Dees	Signature Stephanie Dees	Date 11/23/2009
Vice President of Instruction or Dean of Vocational Instruction	Signature DHC	Date 12-1-09

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

Topics Covered

Review variables, input/output, control structure, user define function, arrays, class, string.
Software Engineering Principles and Classes
Object-Oriented Design
Pointers and Array-Based lists
Standard Template Library
Link Lists
Recursion
Stacks
Queues
Search Algorithms and Sort algorithms
Binary Trees
Graphs

II. Course Learning Outcomes

Course Learning Outcome	Method of Assessment
Advanced data structures and algorithms using Java	Standardized course projects graded via rubric

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.
Y.Daniel Liang, Introduction to JAVA Programming, Seven Edition, Pearson / Prentice Hall,ISBN # 10: 0-13-601267-1

IV. Suggested Course Maximum - 20

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.
Computer for each student with appropriate Java compiler.

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course Tests and Comprehensive Final Exam (partial multiple choice, fill in the blank, etc. with a hands-on component) weekly Short Answer and Hands-on Lab Assignments

50% - Labs, Projects
50% -Midterm & Final Exam

VII. Curriculum Checklist

☒ - **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

☐ - **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:
- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

☐ - **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.