Wharton County Junior College

# Administrative Master Syllabus

## Course Information

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|---|---|
| **Course Title** | Programming Fundamental III |
| **Course Prefix, Num. and Title** | COSC 2336 – Programming Fundamental III |
| **Division** | Technology & Business |
| **Department** | Computer Science |
| **Course Type** | Academic General Education Course (from ACGM, but not WCJC Core) |
| **Course Catalog Description** | Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms using Java. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. (This course is included in the Field of Study Curriculum for Computer Science.) |
| **Pre-Requisites** | COSC 1437 |
| **Co-Requisites** | None |

## Semester Credit Hours

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|---|---|
| **Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours** | 3:2:2 |
| **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:** | Stephen Lyford<br>Digitally signed by Stephen Lyford<br>Date: 2020.06.11 00:20:30 -05'00' | 06/10/2020 |
| **Department Head:** | Stephen Lyford<br>Digitally signed by Stephen Lyford<br>Date: 2020.06.11 00:20:41 -05'00' | 06/10/2020 |
| **Division Chair:** | David Kucera<br>Digitally signed by David Kucera<br>DN: cn=David Kucera, o=Wharton County Junior College, ou=Division of Technology and Business, email=davidk@wcjc.edu, c=US<br>Date: 2020.06.11 11:54:30 -05'00' | 06/11/2020 |
| **Dean/VPI:** | Paul J. Quinn<br>Digitally signed by Paul J. Quinn<br>Date: 2020.06.12 08:07:09 -05'00' | 06/12/2020 |
| **Approved by CIR:** | Paul J. Quinn<br>Digitally signed by Paul J. Quinn<br>Date: 2020.06.12 08:07:25 -05'00' | 06/12/2020 |

# 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).

Review of Class
Review of Array
Search Algorithms
Sort Algorithm
Link Lists
Recursion
Stacks
Queues
Trees
Iterators
Heaps

## Course Learning Outcomes:

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

Demonstrate the Knowledge of Data Structure using Java

**Methods of Assessment:**

Individual Programming Projects
Tests and Quizzes
Final Exam

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

Tony Gaddis, Starting out with Java From Control Structures Through Data Structure, second Edition, Addison Wesley, ISBN # 10: 0-13-54586-9
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 with JDK-7 and Jgrasp

**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:
50% - Lab Projects
50% - Midterm & Final Exam

Grading System:
100-90 = A
89-80 = B
79-070 = C
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