



CHIPOLA COLLEGE

COURSE SYLLABUS

COURSE TITLE:**INTRODUCTION TO DATA STRUCTURES & ALGORITHMS****COURSE NUMBER:****COP 2535****COURSE DESCRIPTION:**

A third course in computer programming. Topics will include standard data structures, such as lists, queues, stacks, trees, graphs; associated algorithms; and an introduction to algorithm analysis techniques. A comparison of pointer-based implementations and array-based implementations will be made. 3 semester hours credit [A]

PREREQUISITES:

COP 2224. Prerequisite may be waived by consent of department for students with previous appropriate coursework or work experience. Contact the course instructor for details.

NAME(S) OF INSTRUCTOR(S):

Nancy Burns

DATE OF LATEST REVISION:

November 1, 2006

REQUIRED TEXTBOOKS: (Please include title, author, publisher, edition & ISBN)

Starting out with C++: Early Objects 5th ed. Gaddis, Walters, Muganda. Addison Wesley. 2006. ISBN: 0-321-38348-6.

REQUIRED HARDWARE / SOFTWARE**A computer with the following software:**

- **Windows XP (Windows 98/NT/Me/2000 are acceptable)**
- **Internet Explorer or other web browser**
- **Microsoft Visual Basic.NET (part of the Visual Studio development suite)**

Computers with this configuration are available in on-campus labs.

Tech Center hours are limited to weekdays and evening hours and some Sunday hours.

No Saturday or night hours 9 pm – 8 am

Copies of the software are also available for checkout as part of the Microsoft Developer Network Academic Alliance (MSDNAA). See Mr. D. Everett (Office: G 111, Phone: 718-2216)

Optional: 3.5" high-density IBM/Windows-compatible diskettes or a USB thumb drive (for transporting files off-campus)

GRADING POLICIES:

The standing of a student in each course is expressed by one of the following letters and corresponding grading system:

- A – 100 – 93
- B – 92 – 83
- C – 82 – 70
- D – 69 – 60
- F – 59 or less

See your Syllabus Supplement for individual instructor practices.

The Chipola Catalog provides specific information regarding other outcomes from the grading system. A student's Grade Point Average is derived from the grading system/quality point scale.

DISCIPLINE-SPECIFIC (TECHNOLOGY) COMPETENCIES / LEARNING OUTCOMES:

COP 2535 is not a General Education Core course. However, it does address competence in the Technology Area.

- T1 Use a computer to create, save, copy, and print files.
- T2 Access and use appropriate software in the content area.
- T3 Access, search, and retrieve information from electronic databases and/or the Internet.
- T4 Use E-mail to create, send, and retrieve messages, including those with attachments.

STUDENT LEARNING OUTCOMES/OBJECTIVES FOR COP 2535:

See chart, last page.

MEANS OF ACCOMPLISHING OUTCOMES:

- Read and study assigned material from the text;
- Complete practice exercises and daily assignments and submit in a timely manner;
- Pursue independent study using resource materials available in the library (books, periodicals, videos), the Tech Center lab, and any other pertinent source;
- Demonstrate your mastery of the required skills on quizzes, in-class projects, and exams.

LIBRARY AND ON-LINE REFERENCE MATERIALS:

The library is a comprehensive, learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. In addition to print media, online catalogs and resources can be accessed through www.linccweb.org and www.netlibrary.com. Library hours are posted each semester at the building entrance.

Chipola's website is located at www.chipola.edu.

See your Syllabus Supplement for individual instructor recommendations and resources.

TECHNOLOGY RESOURCES:

The Information Technology Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance.

ASSIGNMENT SCHEDULE:

See your Syllabus Supplement for individual instructor assignment schedule.

ATTENDANCE AND WITHDRAWAL POLICIES:

Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor.

Chipola policy allows each instructor to specify in the course handout the attendance policy. It also allows the instructor to decide whether or not an absence is excusable and what effect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction, (2) cannot withdraw, and (3) must receive a grade.**

See your Syllabus Supplement for individual instructor or department-specific attendance and withdrawal policy.

MAKE-UP POLICY:

Chipola allows each instructor to specify in the instructor handout the makeup policy. **See your Syllabus Supplement for individual instructor makeup policy**

ACADEMIC HONOR CODE POLICY:

Students are expected to uphold the Academic Honor Code. Chipola College's Honor Code is based on the premise that each student has the responsibility to

- 1) uphold the highest standards of academic honesty in his/her own work;
- 2) refuse to tolerate academic dishonesty in the college community; and
- 3) foster a high sense of honor and social responsibility on the part of students.

Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

STUDENTS WITH DISABILITIES POLICY:

Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola's goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment.

Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

LINKING COURSE-LEVEL LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES AND ASSESSMENT METHODS

COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR COP 2535	COLLEGE-LEVEL AND DISCIPLINE- SPECIFIC GENERAL EDUCATION COMPETENCIES*	ASSESSMENT METHODS ** USED BY INSTRUCTOR
The student will:		
a) specify and define ADTs using C++;		LA, OT, PROJ, Q
b) declare and use linear and non-linear data structures such as queues, stacks, trees and graphs in C++ programs;		LA, OT, PROJ, Q
c) define and use parameterized classes in C++ programs;		LA, OT, PROJ, Q
d) describe the advantages and disadvantages of alternative implementations of the data structures studied;		LA, OT, Q
e) describe the advantages and disadvantages of alternative algorithms for processing the data structures studied;		LA, OT, Q
f) use recursion in C++ programs.		LA, OT, PROJ, Q

* For a list of Chipola's College-Level Competencies, see www.chipola.edu.

**Assessment Method Codes			
LA = Lab Assignments	OT = Objective Tests	PROJ = Projects	Q = Quizzes