El Centro College
COSC 1436
PROGRAMMING FUNDAMENTALS I
Syllabus

COURSE DESCRIPTION

Prerequisite: DREA 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) standard in Reading.

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course may use instructional examples and assignments from various programming languages, including but not limited to C, Objective-C, C++, C#, and/or Java. COSC 1436 will satisfy the Associate in Sciences degree general elective requirement. This course will fulfill DCCCD's degree requirements only if this course has been successfully completed and the date of completion does not exceed 10 years.

Coordinating Board Academic Approval Number 1102015507

This is a 4 credit course. (3 Lec., 3 Lab)

WECM END-OF-COURSE OUTCOMES: Design, write, and test documented Java programs and applets.

STUDENT LEARNING OUTCOMES:

Upon successful completion of COSC 1436, students will be able to:

- Identify Java terms, syntax, basic programming logic, semantics object-oriented concepts, including class, object, and inheritance.
- Produce Java console and GUI application that manipulate constants, variables, objects and arrays with different data types using or without using an Integrated Development Environments (IDE).
- Reinforce skills by choosing appropriate features, control structures, and display options to apply to applications based on assignment criteria.
- Demonstrate knowledge of Java by developing and writing documented programs; designing, debugging and analyzing Java program code.

COURSE MATERIALS

Textbook: Think Java
How to Think Like a Computer Scientist

By Allen Downey, Chris Mayfield

Publisher: O'Reilly Media

ISBN 978-1491972397
Other Resources: eCampus will be used to post and collect assignments, give tests, reference resources, and discuss problems. Students are expected to login to check assignments and announcements no less than once a week. On-line students may use the computer lab during normal hours of operation (see below).
A student of this institution (El Centro College) is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

**Major Course Requirements**

Students will complete writing assignments that address topics in each lecture

Students will complete **lab exercises and projects** which include:

- Gaining an understanding of objects & classes
- Creating Java class definition and documenting Java classes
- Writing functioned Java programs that contains sequential statements, conditional statements, and loop statements (for loop, do while loop and while loop)
- Applying basic concepts of testing & debugging in Java
- Demonstrating object creation & interaction
- Reading and understanding Java Standard library documentation
- Discussing principles of good object-oriented design

A **Midterm** and a **Final Exam** and completion of a **final project** will evaluate the student’s understanding of basic Java programming concepts and utilize their course knowledge.

**Subject Matter**

Topics covered in the lecture portion of the course include:

- Objects & classes
- Understanding Class definitions
- Object interaction
- Grouping Objects
- More sophisticated behavior
- Well-behaved objects
- Improving structure with inheritance
- Java programming elements
- Java programming control structures
- Java console input/output
- Java graphical user interfaces
- Executing with and without NetBeans

**Disclaimer**

The provisions contained in this syllabus do not constitute a contract between the student and El Centro College. These provisions may be changed at the discretion of the Coordinator/Instructor. When necessary, appropriate notice of such changes will be given to the student.

The instructor-of-record may provide additional information to enhance the course to meet the needs of the enrolled students, provided that the enhancements do not conflict with the official course syllabus.

**Policies**
POLICIES
Students should click on the links below and read all of these policies.

Institutional Policies

Course-related Institutional Policies

DISABILITY SERVICES
Students who feel that they may need assistance or accommodations due to a disability should contact the El Centro Disability Services Office in Room A095, phone (214) 860-2411, or go to the DSO webpage at:
http://www.elcentrocollege.edu/students/disability-services

DCCCD Office of Institutional Equity Syllabi Statement

Title IX and Sexual Misconduct

Concealed Carry (Campus Carry)