

Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.

COURSE SYLLABUS

CSIS 505

SOFTWARE DEVELOPMENT

COURSE DESCRIPTION

This course is an in-depth study of the general-purpose, secure, object-oriented, portable programming language Java. Students will learn to program in Java using advanced features in Java to create stand-alone applications and applications for the World Wide Web using Java. The Java language concepts learned will be data types, operators, flow control statements, objects, classes, methods, arrays, inheritance, polymorphism, strings, characters, regular expressions, generic collections, recursion, and custom generic data structures.

RATIONALE

The course explores the Java programming language at an intermediate to advanced level. More than a focus on Java programming syntax, the course further develops the student's ability to think analytically through the use of object-oriented and functional programming paradigms in complex situations.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](#).

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: <http://bookstore.mbsdirect.net/liberty.htm>

III. ADDITIONAL MATERIALS FOR LEARNING

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- C. Microsoft Office
- D. Java SE/8 or higher
- E. A Java development environment such as NetBeans or Eclipse
- F. Lucidchart.com, draw.io, or Microsoft Visio

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

- A. Discuss the relevance of course material and the use of software development to a biblical worldview. (PLO: 1)
- B. Demonstrate the ability to build object-oriented applications. (PLO: 2)
- C. Employ the use of regular expressions on string and character data types. (PLO: 3)
- D. Compile relevant applications using generic data structures. (PLO: 3)
- E. Apply recursive concepts by using recursion in programming applications. (PLO: 3)

V. COURSE REQUIREMENTS AND ASSIGNMENTS

- A. Textbook readings and lecture presentations
- B. Course Requirements Checklist

After reading the Course Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.

- C. Discussion Board Forums (4)

Discussion boards are collaborative learning experiences. Therefore, the student is required to create a thread in response to the provided prompt for each forum. Each thread must be at least 500 words and demonstrate course-related knowledge with at least 1 citation in current APA format and 1 biblical reference. In addition to the thread, the student is required to reply to 2 other classmates' threads. Each reply must be at least 200 words and contain at least 1 citation in current APA format.

- D. Homework (7)

Each Homework assignment will consist of coding solutions to a set of provided problems. Each problem will be a modified version of a textbook exercise. The student will code the program by writing out complete, error-free classes and methods. The student will complete each Homework assignment and submit 2 files showing his/her work. The first file will be a Word document with screenshots showing the output of the program running. The second file will be a compressed/zipped folder containing the Java project and all program code.

- E. Project

The student will complete an individual, comprehensive programming project in the Java programming language on a topic of his/her own choosing. The project will progress through the following 3 milestones:

1. Proposal

The student will submit a short description of what he/she is hoping to accomplish with the project, a bulleted list of requirements that his/her project will implement, an activity diagram, the proposed logic that will be automated, and a list of 5 to 7 information-based, class names that will be used to implement the final project.

2. Design

The student will revise his/her topic based on the feedback he/she received from the Proposal and will create a class diagram depicting 5 to 7 information-based, classes and their relationships that will be used to implement the final project.

3. Final

The student will submit a “code complete” version of his/her project along with appropriate documentation of the project. Additionally, the student will submit revisions to all of the previous deliverables based on given feedback.

F. Midterm Exam

The Midterm Exam will cover the Reading & Study material for the first 4 modules/weeks. The Midterm Exam will be open-book/open-notes, contain 50 multiple-choice and true/false questions, and have a 1-hour time limit.

G. Final Exam

The Final Exam will cover the Reading & Study material for all 8 modules/weeks. The Final Exam will be open-book/open-notes, contain 50 multiple-choice and true/false questions, and have a 1-hour time limit.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist		10
Discussion Board Forums (4 at 50 pts ea)		200
Homework (7 at 50 pts ea)		350
Project		
Proposal		50
Design		50
Final		150
Midterm Exam	(Modules 1–4)	100
Final Exam	(Modules 1–8)	100
	Total	1010

B. Scale

A = 940–1010 A- = 920–939 B+ = 900–919 B = 860–899 B- = 840–859
 C+ = 820–839 C = 780–819 C- = 760–779 F = 0–759

C. Quizzes/Tests/Exams

For timed quizzes/tests/exams, the student is required to complete the quiz/test/exam within the assigned time. For the student who exceeds this time limit, a penalty of 1 point will be deducted for each minute, or part thereof, he/she exceeds the assigned time limit.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to

make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

COURSE SCHEDULE

CSIS 505

Textbook: Deitel & Deitel, *Java: How to Program* (2015).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Deitel & Deitel: chs. 10–11 2 presentations	Course Requirements Checklist Class Introductions DB Forum 1 Homework 1	10 0 50 50
2	Deitel & Deitel: chs. 12, 14 2 presentations 2 websites	DB Forum 2 Homework 2	50 50
3	Deitel & Deitel: chs. 16–17 2 presentations	Homework 3 Project – Proposal	50 50
4	Deitel & Deitel: chs. 18–19 2 presentations	Homework 4 Midterm Exam	50 100
5	Deitel & Deitel: ch. 20 1 presentation	Project – Design Homework 5	50 50
6	Deitel & Deitel: ch. 24 1 presentation	DB Forum 3 Homework 6	50 50
7	Deitel & Deitel: ch. 21 1 presentation	Project – Final Homework 7	150 50
8	Deitel & Deitel: ch. 23 1 presentation	DB Forum 4 Final Exam	50 100
TOTAL			1010

DB = Discussion Board

NOTE: Module/Week 1 begins on Monday and ends at 11:59 p.m. (ET) on Friday. Modules/Weeks 2-8 begin on Saturday and end at 11:59 p.m. (ET) on Friday.