

OHLONE COLLEGE
Ohlone Community College District
OFFICIAL COURSE OUTLINE

I. Description of Course:

1. Department/Course: CS - 173

2. Title: J2EE and EJB

3. Cross Reference:

4. Units: 4.00

Lec Hrs: 3.00

Lab Hrs: 3.00

5. Repeatability: Yes Times:2

6. Grade Options:

Grade Only (GR)

7. Degree/ Applicability:

Credit, Degree Applicable, Not Transferable (D)

8. General Education:

9. CAN Numbers:

10. Field Trips: Not Required

11. Requisites:

Advisory

CS-170 Java Programming-
revised Or equivalent
knowledge/working experience

12. Catalog Description:

This course is an introduction to J2EE and EJB (Enterprise Java Beans). Students will be able to write the business applications using J2EE and EJB.

13. Class Schedule Description:

An introduction to J2EE and EJB with emphasis in business applications and Web Services.

14. Counselor Information:

This course is an introduction to J2EE and EJB (Enterprise Java Beans). The business application and Web Services using J2EE and EJB will be discussed. Students will be able to write those applications using J2EE and EJB.

II. Student Learning Outcomes

The student will:

1. The student will write programs with J2EE architecture.
2. The student will write programs with EJB architecture.
3. The student will write Web Services applications using EJB.
4. The student will write web applications using Message.

III. Course Outline:

A. An introduction to J2EE and EJB

1. Features in J2EE
2. What is EJB
3. Architecture of J2EE and EJB
4. Lab: Practice in examples of J2EE and EJB architectures

B. How to install, configure and use J2EE

1. Downloading J2EE

2. Installing J2EE
3. Configuring J2EE
4. Lab: Exercises in Downloading, installing, configuring J2EE
- C. Distributed computing and Web Services
 1. What is distributed computing
 2. Why distributed computing
 3. Distributed computing and Web Services
 4. Lab: Practice examples and write code in distributed computing
- D. Introduction to interfaces in EJB
 1. EJB local interfaces
 2. EJB remote interfaces
 3. Lab: Practice in writing programs in local and remote interfaces
- E. Introduction to sessions
 1. Threading and synchronization
 2. Session and database
 3. Lab: Practice in writing programs in threading, synchronization, and database connections
- F. Introduction to Session Beans
 1. Session Bean states
 2. Interfaces in Session Beans
 3. Lab: Practice in writing programs in Session Beans
- G. Introduction to Entity Beans and persistence
 1. Lifecycle of Entity Bean
 2. Activation and passivation
 3. EJB query language
 4. Lab: Create code in activation, passivation, and write programs in EJB query language
- H. Midterm
- I. Introduction to messaging
 1. JMS architecture and styles
 2. Using messaging
 3. Lab: Practice in writing programs with messaging
- J. Introduction to EJB container services
 1. Security
 2. Scheduling
 3. Transactions
 4. Lab: Practice in writing business applications in EJB container services
- K. Integration of J2EE to enterprise
 1. Concept of integration
 2. Enterprise architectures
 3. EJB and enterprise
 4. Lab: Exercises in the integration
- L. XML and EJB
 1. DOM
 2. SAX
 3. JAXP
 4. Lab: Write programs using SAX and JAXP
- M. Servlets and JSP with J2EE
 1. Lifecycle of servlet
 2. Servlets in J2EE
 3. Lab: Write business applications using Servlets and JSP
- N. Servlets and JSP with J2EE (continued)

1. JSP tag libraries
 2. JSP in EJB applications
 3. Lab: Write business applications using JSP tags
- O. Introduction to EJB Web Services
1. What is Web Services and why
 2. EJB Web Services and examples
 3. Lab: Practice in EJB Web Services and modify the code
- P. Introduction to packing and deploying business applications
1. Packing your business applications
 2. Deploying your business applications
 3. Lab: Practice in packing and deploying applications
- Q. Other topics and review
1. Third party tools in developing J2EE and EJB applications
 2. Lab: Exploring the third party tools using the Internet
- R. Final Exam

IV. Course Assignments:

Reading Assignments

Writing Assignments

Lab assignments, projects and group project. For example, a lab assignment could be to create online transactions, or write a Web Service to convert currencies or other measurements. The group project could be to develop online-exchange using EJB connecting to the customer database.

Projects, Activities, and other Assignments

Hands-on lab exercises in the computer lab. Troubleshooting and problem-solving skills.

V. Methods of Evaluation:

- A. Concept tests in multiple choice, true/false questions and skill tests in short-coding problems.

Methods of Instruction:

Laboratory
 Demonstration
 Lecture

VI. Textbooks:

Required

1. Martin Bond, Debbie Law *Teach Yourself J2EE* 2nd edition Edition, SAMs , 2004
 ISBN: 0672325586

Optional

VII. Supplies:

1. none