

# ENTD481

**STUDENT WARNING:** This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

## Course Summary

### Description

**Course Description:** This course focuses on the concepts and principles of designing, developing, and deploying N-Tier Java based enterprise web applications. It examines the architectures, the process, the Java Servlet life cycle, and the practices for developing and deploying Java Server Pages (JSP), Java Servlets, and JavaBeans based enterprise web applications. This course also explores the concepts of Java Database Connectivity (JDBC), connection pooling, exception handling, data integrity, and transaction controls. It assesses the impact of enterprise web architectures and applications on global ecommerce and economies. Students must have access to the latest edition of the Java Development Kit, J2EE Development Kit, and Apache Tomcat. This software is not provided by the course material grant and must be purchased/provided by the student. (Prerequisite: ENTD381)

### Course Scope:

The scope of this course is to study the principles and essentials of web development using Java Enterprise Edition. Students will be introduced to the rudiments of the relational databases and the use of SQL language to perform different transactions with the database. Students will learn about the JDBC architecture, the different database drivers available, their advantages and disadvantages, and the classes and the interfaces used in the java.sql package which helps us in connecting to the database. Students will learn about the servlets and Java Server pages that are key components in web development. Students will also learn to install Tomcat and port the servlets and JSP's with respect to the Tomcat. Finally, students will learn to restrict certain parts of the applications using the secure connections.

### Objectives

After successfully completing this course, you will be able to

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Write a Java Database Connectivity (JDBC) program.
- Outline the process of web programming with Java.
- Explain the impact of Java 2 Enterprise Edition (J2EE) on Information Technology Management and on Global Economies as it applies to enterprise eCommerce solutions on the Web.
- Summarize the features of Java 2 Enterprise Edition (J2EE) that have made it the Information Technology Management language of choice for enterprise solutions.
- Distinguish between Java 2 Standard Edition (J2SE) and Java 2 Enterprise Edition (J2EE)
- Analyze the Java 2 Enterprise Edition (J2EE) Security Model.

- Create Java Server Pages (JSP) based, Java Servlets based, JavaBeans based, and other basic J2EE based enterprise web applications.
  - Examine the evolution of the World Wide Web (WWW) in terms of the need for an Enterprise Architecture.
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## Outline

### Week 1:

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Topic

Introduction to JDBC

Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Write a Java Database Connectivity (JDBC) program.

Readings

Matthews Ch 1,2,3

Assignment

Forum

Introduction

### Week 2:

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Topic

JDBC with Java Applications

Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Write a Java Database Connectivity (JDBC) program.
- Explain the impact of Java 2 Enterprise Edition (J2EE) on Information Technology Management and on Global Economies as it applies to enterprise eCommerce solutions on the Web.
- Summarize the features of Java 2 Enterprise Edition (J2EE) that have made it the Information Technology Management language of choice for enterprise solutions.

Readings

Matthews Ch 5,6

Assignment

Week 2 Forum

Assignment 1: WK2 - JDBC Program

### Week 3:

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## Topic

An Introduction to web programming with Java

Install and use Tomcat

Develop JavaServer Pages

## Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Outline the process of web programming with Java.
- Explain the impact of Java 2 Enterprise Edition (J2EE) on Information Technology Management and on Global Economies as it applies to enterprise eCommerce solutions on the Web.
- Summarize the features of Java 2 Enterprise Edition (J2EE) that have made it the Information Technology Management language of choice for enterprise solutions.

## Readings

Murach Ch 1,2, 5

## Assignment

Week 3 Forum

Assignment 2: WK3 - JSP Programming

## **Week 4:**

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## Topic

Develop Servlets

Structure a web application

Work with sessions and cookies

## Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Write a Java Database Connectivity (JDBC) program.
- Outline the process of web programming with Java.
- Explain the impact of Java 2 Enterprise Edition (J2EE) on Information Technology Management and on Global Economies as it applies to enterprise eCommerce solutions on the Web.
- Summarize the features of Java 2 Enterprise Edition (J2EE) that have made it the Information Technology Management language of choice for enterprise solutions.

## Readings

Murach Ch 6,7,8

## Assignment

Week 4 Forum

Midterm Project: WK4

## **Week 5:**

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## Topic

Create and use Java Beans

Work with custom JSP tags

## Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Create Java Server Pages (JSP) based, Java Servlets based, JavaBeans based, and other basic J2EE based enterprise web applications.

## Readings

Murach Ch 9,12

## Assignment

Week 5 Forum Assignment 3: WK5 - Using a bean in JSP

## **Week 6:**

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## Topic

Use MYSQL to work with a database

Use JavaMail to send email

## Learning Objectives

- Analyze the role of java in satisfying the requirements for an enterprise system, the need for relational databases, and role of SQL as a language to interact with the databases.
- Explain the impact of Java 2 Enterprise Edition (J2EE) on Information Technology Management and on Global Economies as it applies to enterprise eCommerce solutions on the Web.
- Summarize the features of Java 2 Enterprise Edition (J2EE) that have made it the Information Technology Management language of choice for enterprise solutions.
- Distinguish between Java 2 Standard Edition (J2SE) and Java 2 Enterprise Edition (J2EE)
- Analyze the Java 2 Enterprise Edition (J2EE) Security Model.
- Create Java Server Pages (JSP) based, Java Servlets based, JavaBeans based, and other basic J2EE based enterprise web applications.

## Readings

Murach Ch 13,15

## Assignment

Week 6 Forum

Assignment 4: WK6 - Mail Servlet

## **Week 7:**

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## Topic

Use SSL to work with a secure connection

Restrict access to a web resource

## Learning Objectives

- Analyze the Java 2 Enterprise Edition (J2EE) Security Model.
- Create Java Server Pages (JSP) based, Java Servlets based, JavaBeans based, and other basic J2EE based enterprise web applications.

## Readings

Murach Ch 16,17

## Assignment

Week 7 Forum

Assignment 5: WK7 - SSL Programming

## Week 8:

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### Topic

Work with HTTP requests and responses

### Learning Objectives

- Create Java Server Pages (JSP) based, Java Servlets based, JavaBeans based, and other basic J2EE based enterprise web applications.
- Examine the evolution of the World Wide Web (WWW) in terms of the need for an Enterprise Architecture.

## Readings

Murach Ch 18

## Assignment

Week 8 Forum

Final Project: WK8

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## Evaluation

### Software Used:

1. J2SDK1.3 or higher
2. J2EE 1.3 or higher
3. Tomcat 3.x or higher
4. Web Browser IE 5.0 or higher
5. MySQL Database

### Software Installation Instructions –

1. Open the URL [https://cds.sun.com/is-bin/INTERSHOP.enfinity/WFS/CDS-CDS\\_Developer-Site/en\\_US/-/USD/ViewProductDetail-Start?ProductRef=jdk-6u10-oth-JPR@CDS-CDS\\_Developer](https://cds.sun.com/is-bin/INTERSHOP.enfinity/WFS/CDS-CDS_Developer-Site/en_US/-/USD/ViewProductDetail-Start?ProductRef=jdk-6u10-oth-JPR@CDS-CDS_Developer)
2. Select Platform and Click on Accept to accept the license information and click on the Continue button.
3. After the file is downloaded Double click on the file jdk-6u10-windows-i586-p.exe. The file is of self-extractable format.
4. The wizards open up which guides you through the installation procedure.  
Do you want to run this file? ->click on run.
5. Software License Agreement screens shows up ->Click on Accept.

6. In the next screen you have to choose the destination location for installation ->Click on Browse -> Change the default location to "C:\jdk1.6.0\_10\" -> Click ok -> Click on Next
7. Installation starts
8. In the next screen you have to choose the destination location for JRE installation ->Click on Browse -> Change the default location to "C:\jre6\" -> Click ok -> Click on Next
9. Installation starts and completes -> click on Finish
10. After the installation Environment variable needs to be set up
11. To Set the Environmental variables Go to My Computer icon on the desktop or on the Start menu, right click on it and choose properties.
12. In the properties window click on the Advanced tab.
13. In the Advanced tab click on the Environmental variables button.
14. In the first part of the window which says user variables for Administrators click on the new window. The New User Variable window shows up with two boxes to type. In the Variable Name box type JRE\_HOME and in the Variable value box type **C:\jre6** Click on the Ok button.
15. In the first part of the window which says user variables for Administrators click on the new window. The New User Variable window shows up with two boxes to type. In the Variable Name box type JAVA\_HOME and in the Variable value box type **C:\jdk1.6.0\_10** Click on the Ok button.
16. In the Second part of the Environmental Variables window which says System variables scroll down to find the Path variable (It's already available). Select the Path variable and click on the Edit button. **DO NOT REMOVE WHAT IS ALREADY THERE.** Move the cursor to the end of the String and add  **;C:\jdk1.6.0\_10\bin;** Say Ok and close all the windows.

### **Install Tomcat 5.5:**

1. Download a binary distribution of Tomcat from: <http://tomcat.apache.org/download-55.cgi>
2. Select Core and Zip, save apache-tomcat-5.5.27.zip
3. Unpack the binary distribution into C:\apache-tomcat-5.5.27

### **Start Up Tomcat:**

1. From the Start menu, click on Run, type C:\apache-tomcat-5.5.27\bin\startup.bat in the Open, and click on OK
2. After startup, the default web applications included with Tomcat will be available by visiting: <http://localhost:8080/>

### **Shut down Tomcat:**

1. From the Start menu, click on Run, type C:\apache-tomcat-5.5.27\bin\shutdown.bat in the Open, and click on OK

### **(Optional) Install Eclipse IDE for Java EE Developers:**

1. Open the URL from <http://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/ganymede/SR1/eclipse-jee-ganymede-SR1-win32.zip>
2. Download eclipse-jee-ganymede-SR1-win32.zip from a mirror site.
3. Extract to C:\

Click on C:\eclipse\eclipse to run eclipse

### **Grading:**

Name	Grade %
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## Materials

**Book Title:** MySQL and Java Developer's Guide-E-book available in the APUS Online Library

**Author:** Matthews

**Publication Info:** Wiley Lib

**ISBN:** 9780471269236

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**Book Title:** Murach's Java Servlets and JSP - With CD, 2nd Ed

**Author:** Murach, Joel / Steelman, Andrea

**Publication Info:** Mike Murach & Associates, Inc.

**ISBN:** 9781890774448

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**Book Title:** APUS does not supply this software. Students must have access to the required software. The listing can be found at <http://apus.libguides.com/bookstore>

**Author:** N/A

**Publication Info:** N/A

**ISBN:** N/A

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**Book Title:** Java Development Kit - Download Java SE Development Kit 8

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

**Author:**

**Publication Info:**

**ISBN:** Software Note

Students are expected to maintain routine contact with the instructor throughout the course. While the number of contacts may vary according to the specific course and individual student need, the University requires periodic weekly contacts during the semester. Contact will consist of professor notes, forum interaction, and email feedback. The method of discussion will be on-line related to issues concerning forum assignments, quizzes, assignments, the midterm project and final project.

### **TEXTBOOK READINGS**

Review the assigned textbook and support materials for this course! Review the table at the end of the syllabus to see assigned readings for each week.

### **PROJECTS**

The projects for this course are located throughout each Lesson. The projects that are required for grading with this course are created from scratch.

### **FORUM**

The Forum assignments for this course are designed to promote interactivity among students and enhance the online learning process. The Forum provides maximum flexibility because you do not have to be online at the same time as another person and you can read what other students have written.

*Forum Timing:* For the forum, you must post your work by midnight on **Thursday**, continue to follow your

classmates' posts for the remainder of the week, and post the follow-up peer responses prior to midnight on **Sunday, except for week one**. Your follow-up posts can add additional insight to a classmate's opinions or can challenge their opinions. Use examples from the readings, or from your own research, to support your views, as appropriate. Be sure to read the follow-up posts to your own posts and reply to any questions or requests for clarification. You are encouraged to conduct research and use other sources to support your answers.

*Required Participation:* Please keep in mind that the forum assignments require you to make at least 1 post to the forum with at least 250 words about the topic and also respond to at least 2 peers' posts with at least 150 words. Please be advised that there will be point deductions if you do not comply with these requirements of the assignment. Each one of you will have a different and unique experience that we can all learn from. Your participation in the Forums unleashes the power of synergy in our classroom. To facilitate this interaction, please be prompt when posting your forum work for each week; this provides time for the others to actively engage in the dialogue. For practical reasons, when you respond to other learners' posts, please start your response by referencing their name. I will read and grade your participation by reading the forum. There is no need to also post your forum work in the assignments area of the classroom. Refer to the forum and the syllabus for more details on grading.

## **MIDTERM PROJECT**

The Midterm Project requires you to use your knowledge of to apply knowledge gained.

## **FINAL PROJECT**

The Final Project requires you to use your knowledge gained through-out the course apply what you learned.

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# **Course Guidelines**

## **Citation and Reference Style**

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

## **Tutoring**

- [Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours\* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

## **Late Assignments**

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 20% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

## **Turn It In**

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments

area of the course.

## Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

## Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

## Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

## Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

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# University Policies

## [Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

The mission of American Public University System is to provide high quality higher education with emphasis on educating the nation’s military and public service communities by offering respected, relevant, accessible, affordable, and student-focused online programs that prepare students for service and leadership in a diverse, global society.

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