Course Summary

Description

Course Description: The course examines the use of unified modeling language (UML) across various object-oriented application implementation technologies; it specifically addresses implementation factors, such as: components, composite structure, and deployment diagrams. It appraises the processes and the potential pitfalls related to application delivery. This course also assesses relevant, real-world approaches to distributed, object-oriented application development delivery and operations. This course also analyzes component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management. This course also appraises the principles of communicating with users and performing strategic, just-in-time training to effectively utilize the applications.

Course Scope:

This course introduces students to testing and deployment of Object Oriented Applications.

Objectives

After successfully completing this course, you will be able to

- Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
- Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
- Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management
- Assess the primary factors that have contributed to the success or failure of application delivery
- Assess the principles and practices of software configuration management and version control
- Appraise the need for development, staging, and production environments to facilitate team based software development and deployment

Outline

Week 1:
Topic
Software Quality

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Assess the principles and practices of software configuration management and version control

Readings
Freeman Introduction
O'Docherty
Read
Introduction
Chapter 2 – Object Concepts
Review
Chapter 3 – Inheritance
Chapter 4 – Type Systems
Chapter 5 – Software Development Methodologies
This Course Andrew’s Lawn Service Case

Assignment
- Week 1 Student Introduction
- Week 1 Forum
- Assignment 1: WK 1

Week 2:

Topic
Quality Process

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications

Readings
Freeman: None
O'Docherty:
   - Chapter 6 – Gathering Requirements
   - Chapter 7 – Analyzing the Problem
Assignment

- Assignment 2: WK2
- Week 2 Forum

Week 3:

Topic

Testing

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management

Readings

Freeman: None
O’Docherty: Chapter 13 – Continuous Testing

Assignment

- Assignment 3: WK3
- Week 3 Forum

Week 4:

Topic

Test-Driven Development (TDD) & Midterm

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management

Readings

Freeman:

Chapter 1 – What is the Point of Test-Driven Development?
Chapter 2 – Test-driven Development with Objects
Chapter 3 – An Introduction to the Tools

O’Docherty: Review Chapter 13 – Continuous Testing

Assignment

- Assignment 4: WK4 Midterm Project
Week 5:

Topic
Test-Driven Development (TDD) Process

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management

Readings
Freeman:
Chapter 4 – Kick-Starting the Test-Driven Cycle
Chapter 5 – Maintaining the Test-Driven Cycle
Chapter 6 – Object-Oriented Style
Chapter 7 – Achieving Object-Oriented Design
Chapter 8 – Building on Third-Party Code

O'Docherty: Review Chapter 13 – Continuous Testing

Assignment

• Assignment 5:WK5
• Week 5 Forum

Week 6:

Topic
A Worked Example

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management

Readings
Freeman:
Chapter 9 – Commissioning an Auction Sniper
Chapter 10 – The Walking Skeleton
Chapter 11 – Passing the First Test
Chapter 12 – Getting Ready to Bid
Chapter 13 – The Sniper Makes a Bid
Chapter 14 – The Sniper Wins the Auction
Chapter 15 – Towards a Real User Interface

O’Docherty: Review previous chapters

Assignment

- Assignment 6:WK6
- Week 6 Forum

Week 7:

Topic

A Worked Example - Details

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management
4. Assess the primary factors that have contributed to the success or failure of application delivery

Readings

Freeman:

Chapter 16 – Sniping for Multiple Items
Chapter 17 – Teasing Apart Main
Chapter 18 – Filling in the Details
Chapter 19 – Handling Failure
Chapter 20 – Listening to the Tests
Chapter 21 – Test Readability

O’Docherty: Review previous chapters

Assignment

- Assignment 7:WK7
- Week 7 Forum

Week 8:

Topic

Advanced Topics and Final Project

Learning Objectives

1. Synthesize Component, Composite Structure, and Deployment diagrams, in order to facilitate managed application delivery
2. Examine the phases, processes, and outputs related to the delivering distributed, object-oriented applications
3. Analyze component testing, application testing, integration planning, incremental builds, test plans, build testing, staging, and configuration management
4. Assess the primary factors that have contributed to the success or failure of application delivery
5. Assess the principles and practices of software configuration management and version control
6. Appraise the need for development, staging, and production environments to facilitate team based software development and deployment

Readings
Freeman:

Chapter 22 – Constructing Complex Test Data
Chapter 23 – Test Diagnostics
Chapter 24 – Test Flexibility
Chapter 25 – Testing Persistence
Chapter 26 – Unit Testing and Threads
Chapter 27 – Testing Asynchronous Code
O'Docherty: Review previous chapter

Assignment
- Assignment 8: WK8 Final Project
- Week 8 Forum

Evaluation

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.

**Grading:**

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**Materials**
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 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 ongoing 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 viewpoints, 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.

**University Policies**

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

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