

Syllabus
SEN 301 – Object Oriented Analysis
and Design (Credit Units: 2)

Department of Software
Engineering
Faculty of Computing
University of Delta, Agbor,

Nigeria

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**Office Hours: Monday, Tuesday, Wednesday, Thursday & Friday 8:00
am - 4:00 pm**

There are many ways to reach me. There is no substitute for face-to-face communication which often leads to more refined and focused questions resulting in your improved understanding. I strongly encourage you to take advantage of my office hours. Questions during class or immediately after class are always welcomed. Email is an easy way to ask questions outside of class but is not productive as face-to-face communication.

Meeting Time and Place: Monday, 12pm to 2pm FOC LH 3

Attendance

Every one of you is expected to attend all classes. For any reason to be absent, you must notify me through the class Rep. It is your duty to make up for the work that you missed. Either the PDF or Hard copy documents

Methods of Instruction

This syllabus contains an overview of what will be covered in class; for specific information, students are referred to the class web page maintained on the University website. Assignments will be posted on University of Delta LMS or given in the class and should be submitted through University of Delta LMS. Class attendance, doing all your practical and homework will help the borderline cases.

Overview

Object – Oriented Analysis and Design is (OOAD) is a technical approach for analyzing an application, system, or business by applying object –oriented programming, as well as using visual modeling throughout the software development process to guide stakeholder communication and product quality

Objectives

At the end of this course, students should be able to:

1. explain the concept of the object-oriented approach to modelling;
2. describe the conceptual model of the UML-based software development life cycle;
3. demonstrate how to use the major UML diagrams for object-oriented analysis and design;
4. Demonstrate the use of UML-based CASE tools.

Learning Outcomes

At the end of this course, students should be able to:

5. explain the concept of the object-oriented approach to modelling;
6. describe the conceptual model of the UML-based software development life cycle;
7. demonstrate how to use the major UML diagrams for object-oriented analysis and design;
8. demonstrate the use of UML-based CASE tools.

Course Contents

Object-oriented approach to information system development, particularly in reference to the earlier stages of analysis and design. Importance of modelling, principles of modelling, object-oriented modelling, conceptual model of the Unified Modelling Language (UML), architecture, software development life cycle. The principles and basic concepts of object orientation and the different aspects of object-oriented modelling as represented by the UML technique. Case study of a typical UML-based CASE tool.

Lab Work: Practical exercises on different requirements specification and design activities; developing problem statements, SRS documents and Use Case Diagrams; designing UML Activity diagrams, UML Class diagrams and State Chart diagrams; drawing partial layered, logical architecture diagram with UML package diagram notation; Designing Component and Deployment diagrams.

Lecture Schedules

Week	Content	Lecture notes/slides
1.	Object-oriented approach to information system development	
2.	Importance of modelling	
3.	principles of modelling	
4.	Object-oriented modelling	
5.	Conceptual model of the Unified Modelling Language (UML) architecture	
6.	Software development life cycle	
7.	The principles and basic concepts of object orientation	
8.	different aspects of object-oriented modelling as represented by the UML technique.	
9.	Case study of a typical UML-based CASE tool	
10.	Practical exercises on different requirements specification and design activities: SRS documents and Use Case Diagrams	
11.	designing UML Activity diagrams	
12.	UML Class diagrams and State Chart diagrams; drawing partial layered,	
13.	Designing Components and development diagram	
14.	Revisions	
15.	Final Exam	

Examination schedule

- Attendance
- Homework
- Class Test
- Practical exercises
- End of Semester Exam

Grading

- Homework: 10% of grade
- Attendance and Lecture Material : 10%
- Midterm Exam: 10% of grade
- Final Exam: 70% of grade

Text & References

- Ian Sommerville. (2018), Software Engineering: Beginners Approach, EIGHT EDITION

- All relevant resources as found in the University Library and Relevant Online Material

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The code of student conduct is described in detail in the student handbook or University website.

Academic Honesty

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." It is the policy of the University, that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text or code, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorized assistance on any assignment. Proper citation of sources must always be utilized thoroughly and accurately. If you are caught sharing or using other people's work in this class, you will receive a 0 grade and a warning on the first instance. A subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. If you are unclear about what constitutes academic dishonesty, ask.

The screenshot shows the 'MANAGER COURSES' interface in the 'UNIDEL CMS' system. The page is titled 'Courses' and contains a form for adding or editing course information. The form includes the following fields and controls:

- Courseware Document ***: A file upload area with a 'Browse...' button and a note 'no file selected'. An 'UPLOAD PDF DOC' button is also present.
- Course Code**: A text input field.
- Course Title**: A text input field.
- Is1**: A dropdown menu.
- 200 Level**: A dropdown menu.
- FOC**: A button.
- Course Objective**: A large text area for entering course objectives.
- Course Synopsis**: A large text area for entering a course synopsis.
- Course Lecturer**: A text input field.
- Exam Mark**: A text input field.
- Test Mark**: A text input field.
- Assignment Mark**: A text input field.
- Lecturer Hour**: A text input field.
- Tutorial Hours**: A text input field.
- Practical Hours**: A text input field.
- Course Unit**: A text input field.

At the bottom of the form, there are two buttons: 'SAVE' (in blue) and 'CANCEL'.