JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

II Year –I I Semester		L	T	P	C
		0	1	2	2
UNIFIED MODELING LANGUAGE (UML) LAB					

Course Objectives:

- To know the practical issues of the different object oriented analysis and design concepts
- Inculcate the art of object oriented software analysis and design
- Apply forward and reverse engineering of a software system
- Carry out the analysis and design of a system in an object oriented way

Course Outcomes:
At the end of the course, student will be able to

- Know the syntax of different UML diagrams
- Create use case documents that capture requirements for a software system
- Create class diagrams that model both the domain model and design model of a software system
- Create interaction diagrams that model the dynamic aspects of a software system
- Write code that builds a software system
- Develop simple applications

Note: For performing the experiments consider any case study (ATM/ Banking/ Library/Hospital management systems)

Experiment 1:
Familiarization with Rational Rose or Umbrella environment

Experiment 2:
a) Identify and analyze events
b) Identify Use cases
c) Develop event table

Experiment 3:
a) Identify & analyze domain classes
b) Represent use cases and a domain class diagram using Rational Rose
c) Develop CRUD matrix to represent relationships between use cases and problem domain classes

Experiment 4:
a) Develop Use case diagrams
b) Develop elaborate Use case descriptions & scenarios
c) Develop prototypes (without functionality)

Experiment 5:
a) Develop system sequence diagrams and high-level sequence diagrams for each use case
b) Identify MVC classes / objects for each use case
c) Develop Detailed Sequence Diagrams / Communication diagrams for each use case showing interactions among all the three-layer objects

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

Experiment 6:

a) Develop detailed design class model (use GRASP patterns for responsibility assignment)
b) Develop three-layer package diagrams for each case study

Experiment 7:

a) Develop Use case Packages
b) Develop component diagrams
c) Identify relationships between use cases and represent them
d) Refine domain class model by showing all the associations among classes

Experiment 8:

Develop sample diagrams for other UML diagrams - state chart diagrams, activity diagrams and deployment diagrams