

mechanism - File directories and file sharing - File system implementation issues - File system protection and security.

Textbooks / References

- 1) Silberschatz, Galvin and Gagne, Operating Systems Concepts, Wiley Publications.
- 2) Sibsankar Halder and Alex A. Aravind, Operating Systems, Pearson Education.
- 3) Harvey M. Dietel, An Introduction to Operating System, Pearson Education.
- 4) D. M. Dhamdhere, Operating Systems: A Concept based Approach, 2nd Edition.
- 5) Charles Crowley, Operating Systems: A Design-Oriented Approach, Tata McGraw Hill Co.
- 6) Stuart E. Madnick and John J. Donovan, Operating Systems, McGraw Hill Co.

Course code	CEC502				
Category	Professional Core				
Course title	Object-oriented Programming				
Scheme and credits	L	T	P	C	Semester
	3	0	0	3	5
Pre-requisites if any	Knowledge of C++ and Java, and/or Pearl.				

Module 1

Abstract data types and their specification - How to implement an ADT - Concrete state space, concrete invariant, abstraction function - Implementing operations, illustrated by the text example.

Module 2

Features of object-oriented programming - Encapsulation, object identity, polymorphism - but not inheritance.

Module 3

Inheritance in OO design - Design patterns: introduction and classification - The iterator pattern - Model-view-controller pattern - Commands as methods and as objects - Implementing OO language features.

Module 4

Memory management - Generic types and collections.

Module 5

GUIs - Graphical programming with Scala and Swing - The software development process.

Textbooks / References

- 1) Barbara Liskov, Program Development in Java, Addison-Wesley, 2001.
- 2) Any book on Core Java.
- 3) Any book on C++.