

COURSE OUTLINE OF RECORD

Dept., Number	CSC 3310	Course Title	Introduction to File Processing
Semester Hours	3		
Year	2006	URL (if any):	

Current Catalog Description:

This course is a study of the design of file processing programs, file access and organization methods, concepts, and techniques of structuring and accessing data on bulk storage devices and databases. Laboratory work required. Prerequisite: CSC 2331

Textbook:

“File Structures”, 3rd Edition; by Michael J. Folk & Bill Zoellick; Addison-Wesley Pub. Company, Inc.

Reference Book:

“File Organization and Processing”, 1988; by Alan L. Tharp; John Wiley and Sons, Inc.

Course Goals:

1. Study how to design and build efficient file structures.
2. Give the basic tools to design simple file structures from the ground up.
3. Introduce the most important high-level file structure designs, including sequential access, B-trees, B+-trees, Indexing, Hashing and Extendible Hashing.
4. Introduce on a high level, Job Control Language (JCL), its use and construct.
5. Provide experience in programming realistic problems while teaching techniques of efficient design and coding.

Prerequisites by Topic:

1. Experience with some programming language and knowledge of basic data structures.
2. Familiarity with the terms files, fields, and records.
3. Familiarity with the general characteristics of modern computing equipment.

Major Topics Covered in the Course (number of weeks):

1. Fundamental File Structure Concepts	1
2. Indexing	1.5
3. Organizing File For Performance	1.5
4. Secondary Storage and System Software	1.5
5. Job Control Language	1.5
6. Hashing	1.5
7. Extendible Hashing	1.5
8. B-trees and Other Tree-Structured File Organizations	2
9. B+-Tree Family and Index-sequential File Access	1.5
10. Professional Ethics	0.5

Laboratory Projects:

1. Design/Run a program for Matching and Merging records of 2 data files	2 weeks
2. Design/Run a program for heapsort	2 weeks
3. Research Paper	6 weeks

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Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms			Data Structures	2	
Software Design	1		Prog. Languages		
Comp. Arch.					

Oral and Written Communication:

Typically, every student is required to submit at least 1 written report of 8 - 10 pages and make 1 oral presentation of 15 - 20 minutes duration.

Social and Ethical Issues:

Class discussion on documentation of homework and report.

Problem Analysis:

Students did analysis on JCL syntax.

Open-Ended Design:

Students developed program for simulation of a file index.