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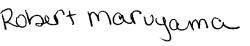
# CIS 250: File Processing

## Course Description

Introduction to file structures and processing. Topics include design and implementation of file structures for efficient storage and retrieval of information; secondary storage devices; file organization; indexing; hashing. Uses a suitable compiler language for implementing these concepts. Offered annually. Prerequisites: CIS 160

## Course Objectives

The objectives of this course include the following:
- To become familiar with the basic concepts of the file structure and file processing
- To learn the organization of hiearchical file systems
- To practice implementing basic file processing algorithms using high level languages
- To learn various file storage methods, with their advantages and disadvantages
- To be able to describe, compare, and differentiate among various graphics file formats
- To learn the nature of various multimedia files including audio and video files
- To gain experience in manipulating text, image, and Web-based files
- To learn how to work on a project with other members on a team

    To gain experience in conducting an oral presentation

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## Course Requirements

This is a directed-study course, in which a greater responsibility for achieving the course objectives is placed on you--more than in a regular class. The class will meet officially several times during the term. (We can meet unofficially as often as we wish.) See the schedule for meeting dates. It is important that you establish your own schedule and stick with it in order that you can omplete the course requirements on time. During the term you are required to complete three projects, parts of which can be conducted in parallel. These projects should be developed by a team, so that you will have the opportunity to cooperate with other people on a common undertaking. There will be a final exam at the end of the semester, based on the questions and problems described in the projects.

## Project Assignments

You are required to complete three projects for this course. You should work on these projects as a team, so that you need to submit only on report for each project. You may divide your responsibilities between the team members, but you are all expected to be answer all questions related to the projects. The final exam will be based on the questions and answers related to these projects. The projects are described below.

Written reports should be hardcopies from a printer. (Diagrams can be included as separate pages or

manually inserted among text.) Grammar, spelling, and clear writing do matter in your reports. All answers should be numbered and written in complete sentences.

"File Structure, Formats and Storage" (Project FC): a research report which describes your understanding of the basic concepts on the notion of file--its structure, its organization, and its processing. This should be completed by the middle of the term--see the Schedule--and submitted as an HTML file. (The URL for your file should be submitted to me during the second week of the class.)

2. "File Processing" (Project: EP): some questions and several programming problems dealing with basic file processing using C++. (See the directions in the project description on how to submit your programs.)

3. "Illustrated Class List System" (Project CL): an automated system which can produce on demand a class list containing images along with the names of students. This should be completed by the end of the term and presented as an oral report. A written copy of the report should also submitted.

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## Grading Guidelines

Grading will based on the following elements of the course requirements:
- **Your preparedness at scheduler meetings**
- **Project No. 1 (written only)**
- **Project No. 2 (written and working programs)**
- **Project No. 2 (oral and written)**
- **Final exam**

A greater weight will be placed on the quality of the projects and the timeliness of their completion. A single grade will be assigned to each project, i.e., the same grade for all team members. (The final exam will be given individual grades.) You will be asked to suggest at the end of the term a letter grade that you think is fair for your work and achievement, along with an explanation for your suggestion. The proposed grade and its explanation should refer only to you and not to your team partners. Although your suggested grade may not be necessarily the actual grade that you will receive, your suggestion and explanation will help me to get a better idea of what you will have done during the semester,

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## References

You may find the following references useful in completing your projects, especially project BFC.
- **Webpoedia is an encyclopedia of computer related terms. You can find definitions for almost any term dealing with the hardware, software, network, etc.**
- **File Formats for 2D graphics, 3D graphics, database, game, fonts, text, and types of files are explained here.**
- *File Structures, An Object-Oriented Approach Using C++* **by Michael Folk is a text book that**

contains explanations to basic concepts file structure, format, storage, and processing.

- *File Structures with Ada,* Nancy Miller and Charles Petersen, Addison Wesley.

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*Last updated on 8/17/99. Please send comments or questions* to rmaruyam@chaminade.edu

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# Class Schedule

## (Fall Semester, 1999)

| Wk | Date | Remarks | Due |
|---|---|---|---|
| 1 | 8/30-9/3 | **8/31 Meeting I:**<br><br>**Introduction.** (2-3 pm) | |
| 2 | 9/6-9/10 | *916 Labor Day (no classes)* | |
| 3 | 9/13-9/17 | | |
| 4 | 9/20-9/24 | | |
| 5 | 9/27-10/1 | **9/30 Meeting II:**<br><br>**Discussions**<br>**Presentation of Preliminary Plans.** | |
| 6 | 10/4-10/8 | | |
| 7 | 10/11-10/15 | *10/11 Discrover's Day (no classes)* | |
| 10 | 11/1-11/5 | *11/1 Veteran's Day (no classes)*<br><br>**11/4 Meeting III:**<br><br>**Discussions**<br>**Intermediate Report** | |
| 11 | 11/8-11/12 | | |
| 12 | 11/15-11/19 | | **11/18**<br>**(at midnight)**<br>**Project FP** |
| | | **Presentation of ICLS.** | **(at 2 pm)**<br>**Project CL** |
| 16 | 12/16 | **Final Exam. (8:00-10:00 a.m.)** | |

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