

Carleton University
Department of Systems and Computer Engineering
SYSC 3001 Operating Systems and Databases Winter 2011-12

Course Outline

Instructor: Shikharesh Majumdar Room 4438 ME, Tel. 520-5654, Email: majumdar@sce.carleton.ca

Course Description and Objectives (from calendar): Operating systems and databases treated from a common perspective. Management of CPU, processes, memory, files, and data. Implications of concurrency. Concurrent programming, including inter-process communication in distributed systems. Data models and query languages.

Prerequisites: (SYSC 2002 or SYSC 2100), and SYSC 2003. Precludes additional credit for SYSC 4001. Students who have not satisfied the prerequisites for this course must either a) withdraw from the course, or b) submit a prerequisite waiver online or c) may be deregistered from the course after the last day to register for courses in the Winter 2011-12 term.

Textbook:

Operating System Concepts Essentials, by Silberschatz, Galvin and Gagne, John Wiley & Sons, Inc.

Approximate Grading Scheme:

To pass the course, a student must pass the final examination (D- or better). For students who will meet this condition, the final grade will be calculated as follows:

Assignments: 20 %
Midterm Exam: 25%
Final Exam: 55%

Assignments: Assignments include programming assignments. The TA will run students' solutions on the lab computer using the lab's compiler and operating system; so make sure that your assignment solutions can be compiled and tested on this environment.

Students are allowed to discuss design issues among themselves when solving problems given in the assignments. But they have to do their own design, implement and test their own programs. There is a difference between discussing problems and issues with your colleagues and copying a design or program code (plagiarism). Plagiarism is an instructional offence.

Late assignments are not accepted unless you provide a medical certificate.

Laboratory Sessions: The assignments are to be done during **scheduled as well as open lab sessions**. Access to the lab is possible whenever the engineering building is open. Open lab sessions correspond to those timetable slots when the room is NOT reserved for specific courses.

Final Exam: *Is for the evaluation purposes only and will not be returned to the student.*

Students who miss the final exam may be granted permission to write a deferred examination (see the Undergraduate Calendar for regulations on deferred exams).

Students with Disabilities:

Students with disabilities requiring academic accommodations in this course are encouraged to contact a coordinator at the Paul Menton Centre for Students with Disabilities to complete the necessary letters of

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accommodation. After registering with the PMC, make an appointment to meet and discuss your needs with me at least two weeks prior to the final exam. This is necessary in order to ensure sufficient time to make the necessary arrangements. Please note the following deadlines for submitting completed forms to the Paul Menton Centre: March 7, 2012 for the Winter Term.

Plagiarism:

Plagiarism (copying and handing in for credit someone else's work) is a serious instructional offense that will not be tolerated. Please refer to the section on instructional offenses in the Undergraduate Calendar for additional information.

Approximate Week-by-Week Outline:

(Although we intend to follow this week-by-week outline, divergence from the outline may occur from time to time).

- Week 1** – Introduction
- Week 2** – Processes and Threads
- Week 3 -4** – CPU Scheduling
- Week 5-6** – Management of concurrent processes
- Week 7-9** – Memory management
- Weeks 10** – Introduction to databases (including architecture)
- Week 11** – Query processing
- Week 12-13** – File management and databases, Concurrency control, failure handling + review