Summer 2012

CEG 434-01: Concurrent Software Design

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Department of Computer Science and Engineering
Wright State University

CEG434 Concurrent Software Design

SYLLABUS
Summer 2012

Drop dates: 6/29 no grade; 7/27 with a W

Time/Place Section 1: 4:10-5:25pm, T, Th Medical Science 145

Instructor Dr. Bin Wang, Professor, 491 Joshi Research Center
Tel: (937) 775-5115, E-mail: ***send email via Pilot***
Office hours: 3:00-4:00pm T, Th, or walk-in
I would like the course to run smoothly and enjoyably. Feel free to let me know what you find just, good, and interesting about the course. Let me know sooner about the reverse. See me, leave me a note, or send me email.

TA None

Prerequisites CEG 433

Textbooks *Required*: Silberschatz, Galvin, Gagne, Operating System Concepts, 8th edition, Wiley.
Required: Unix Systems Programming, Robbins & Robbins, Prentice Hall, 2003.

Webpage http://pilot.wright.edu
News Group Check daily Pilot for announcements, assignment, homework, questions and answers

Course Objectives This course provides an introduction to concurrent software design in a Unix environment. Classical problems of synchronization and concurrency and their solutions are examined through course projects, readings, and lectures.

Students' Responsibilities You are expected to:

1) read assigned materials **prior to** class and come up with questions. Reading materials will be assigned in advance.
2) attend classes on a regular and timely basis. Regular class attendance is mandatory and is essential to success in the course. You are responsible for all contents, handouts, and announcements distributed/made in class.
3) complete and turn in your assignments timely. You are expected to write your own programs. **Do not** copy from or give your work to others, and **do not** make it possible for others to copy any portions of your work. Violators will receive a **zero** credit on the assignment.
4) be present for exams at the scheduled times. If there is a catastrophic event that prevents you form taking an exam, please contact the instructor as soon as possible.
5) not disturb/disrupt the class.

Course Evaluation

You will receive a final course grade comprised of the weighted score earned on all required course assignments and exams.

Methods:	**% of final grade**
1. Participation(show up, in class discussion, in class quizzes, etc): 5%	
2. Programming assignments:	45%
3. Middle term exam:	20% (7/12, Thursday in class)
4. Final exam:	30% (8/16, Thursday, 4:10-6:10pm)
Total	100%

Grading scale:

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90-100	A
80-89.9	B
70-79.9	C
60-69.9	D
Below 60	F

Re-grading policy: If you have questions about the way an assignment or exam was graded, you must submit **in writing** a re-grading request detailing the rationale for re-grading.

Late Submission of Assignments

You may discuss homework assignments with classmates but all solutions must be original and individually prepared.

You will lose 10% of the total points for an assignment for each 24-hour period (or fraction of a 24 hour period) the assignment is late. Late assignments will be accepted up to 4 days after the due date as specified in the assignment handout. Late penalty is accrued on weekends just as during the week. Partial credits will be given to students who turn in partially completed assignments. Special considerations will be given for students who have a medical excuse for late submission (written proof of illness is required). These considerations may extend to medical emergencies involving children or other family members. Such consideration is at the discretion of the instructor, and will be as reasonable and fair as possible. Special consideration may also be given for employment conflicts (e.g. military duty, travel) if brought to the attention of the instructor **prior to** the due date for an assignment.

Course requirements for other courses are **NOT** a valid reason for special consideration.

Missed Quizzes and Exam

Missed quizzes and exams can be made up only under extenuating circumstances such as medical emergencies and work conflicts as mentioned above. Please see the instructor as soon as possible if you know you will be unable to attend a quiz or exam. You are expected to schedule your departure for any end of quarter travel after your final exam.

Plagiarism

Students are members of a learning community committed to the search for knowledge and truth. Essential to that search is the faithful adherence by all students to the highest standards of honesty and integrity. A grade of "0" or "F" will be assigned to examinations or assignments on which cheating, plagiarism or any other form of academic dishonesty is committed or determined to have occurred. For the detail, see Wright State University Student Handbook under "Academic Dishonesty".

Lecture Outline

The following is the **tentative** lecture schedule.

Lecture	**Contents**
Lecture 1	Review: process, process management, scheduling
Lecture 2	UNIX process control; inter-process communication
Lecture 3	Pipe, shared memory
Lecture 4	Message queue, socket
Lecture 5	Process synchronization
Lecture 6	I/O systems
Lecture 7	UNIX signals
Lecture 8	Deadlocks
Lecture 9	Deadlocks
Lecture 10	Distributed system
Lecture 11	Distributed system
Lecture 12	Distributed coordination
Lecture 13	Distributed coordination
Lecture 14	File-system interface
Lecture 15	File-system implementation
Lecture 16	Mass-storage system
Lecture 17	Mass-storage system
Lecture 18	Real-time system
Lecture 19	Real-time system
Lecture 20	Final exam