CSCI470: Operating Systems

1.	Course Prefix and number	CSCI 470
2.	Number of semester hours	3
3.	Pre-requisites	CSCI 250, 241
4.	Location of classroom and time course meets	WS 118 12:30-1:45 Tue, Thu
5.	Intstructor Web Page	Dr. Warren MacEvoy http://www.coloradomesa.edu/~wmacevoy
6.	Office Hours	See my web page.
7.	Course Description	This course will cover design issues in operating systems, and how major operating systems address those issues. Topics will include scheduling, multithreading, locks, and driver management.
8.	General Education Objectives	This is not a general education class.
9.	Textbook and Materials	*Operating System Concepts* by Silberschatz Galvin and Gagne.
10.	Course Objectives	Learning the theory and practice of accomplishing what is in the course description. objectives
11.	Policy on absences and tardies	Make up exams will only be given with advanced notification or very unusual circumstances. You are responsible for material given in class, including changes of schedule for exams.
12.	Policy on late work	Late projects cost 2 letter grades per day.
13.	Policy on	You may be given a failing grade on a project or the course overall

	academic dishonesty	for academic dishonesty.
14.	Disability Arrangements	In coordination with Educational Access Services, reasonable accommodations will be provided for qualified students with disabilities. Please meet with the instructor the first week of class to make arrangements. Nancy Conklin, the Coordinator of Educational Access Services, can be contacted at 248-1826, or in person in Houston Hall, Suite 108.
15.	Evaluation and grading	Your grade will be reflected in three parts, each of equal weight. One part will be on the operating system concepts from the textbook. One part will come from smaller projects during the course, and a final part will be from a self-directed in-depth final project. Projects will be graded on an A, B, or F basis: ● **A**: Well written and documented, with more bells and whistles than required for the project. Testing procedures must be included with the project. ● **B**: Works correctly. Reasonably written. Reasonably documented. Reasonably tested. ● **F**: Fails to work. Poorly written, documented, or tested. You must propose your final project content. At most two people can work on a given project, and the grade will reflect individual contributions to the project. The final project will include a written and oral presentation.
16.	Major assignments	You will make a final project and presentation for the course.
17.	Course Topics	See below

date	mon	tue	wed	thu	fri
21-Jan-13		1		2	
28-Jan-13		3		4	
4-Feb-13		5		6	
11-Feb-13		7		8	

18-Feb-13		9		10	
25-Feb-13		11		12	
4-Mar-13		13		14	
11-Mar-13		15		16	
18-Mar-13		17		18	
25-Mar-13	break	break	break	break	break
1-Apr-13		19		20	
8-Apr-13		21		22	
15-Apr-13		23		24	
22-Apr-13		25		26	showcase
29-Apr-13		27		28	
6-May-13		29		30	
13-May-13	finals	finals	finals	* 10 am final *	

Topics:

1. OS - Overview
2. Process Management
3. Processes
4. Threads
5. Synchronization
6. Memory
7. File System
8. Security

Assignment # 1: Find 1 (not obvious) operating systems and brief description of their use or market. Due: 2/1/2013

Assignment # 2: 1.13, 1.17, 1.19, 1.22, 1.25, 1.31, 1.32. Due Feb 5.

Project # 1: Use a system API to write a program in C/C++ that prints out the current date in the format:

DD-MMM-YYYY

Such as, 20-JAN-2012

Due: 7-Feb-2012

Chapter 2 Homework: 2.12-2.26, Due Feb 21 (test day).

Project # 2: Use fork / exec or createprocess to start a process from within some other process. Due: Tuesday 3/5

Project # 3: Share information between two processes: Due: Thursday 3 / 14

Chapter 3 Homework: 3.2, 3.7, 3.10, 3.13, 3.14 Due 3/14 (ch3 test)

Project # 4: Write a multithreaded application. Due: Tuesday 9th of April

Chapter 4 Homework: 4.7, 4.8, 4.10, 4.13. Due: Tuesday 9th of April

Chapter 5 Homework --- test topics include geometric and arithmetic means, distributions of times spent in the queue, and typical scheduling algorithms. 5.9, 5.11, 5.12, 5.13 (not due ever)

Chapter 6 Homework: 6.8, 6.11, 6.17. Due April 30th.

Project #5: write a multithreaded application that uses locks, semaphores, or monitors. Due: Thursday April 30th.