CENTRAL WASHINGTON UNIVERSITY
Syllabus: Math 332 - Discrete Models - Winter 2009
10:00 - 10:50 AM / MTWF - BOUILLON 106

Professor:	Dr. Jane Whitmire
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Phone:	509-962-2268
Office:	Bouillon 123
Office Hours:	M 1:00-1:50PM, WED 7:00-7:50AM, TH 10:00-10:50PM
Textbook:	Discrete Dynamical Systems; Mathematics, Methods, and Models
Author:	Arney, Giordano, & Robertson
Prerequisites:	Math 272 & Math 265 with a grade of C or better

Course Description

This is an college mathematics course in discrete dynamical systems. Topics include sequences, differences, linear and nonlinear difference equations, systems of difference equations, numerical solutions of linear and nonlinear equations, analytical techniques for solving linear systems using linear algebra, up through eigenvalues and eigenvectors, and an introduction to projections and regression with vectors. Applications from many fields are studied and the role of mathematical modeling is a central focus.

Course Objectives

• Extend knowledge and understanding of mathematical concepts in difference equations and linear algebra.

• Develop mathematical skills to formulate and solve difference equations and systems of equations

• Recognize and identify mathematical patterns of change in real-world contexts, specifically, to see situations where a difference equation or system of equations can be used to describe behavior.

• Design and interpret mathematical models using difference equations and systems to capture the essence of real-world phenomena.

• Expand knowledge and understanding of the real world through mathematical analysis.

•Develop skills to effectively use computing, information, and communication technologies.

Homework

Students may work with classmates on homework, but students should write solutions using their own words. Homework must be neat, legible, and contain complete sentences where appropriate.

Homework is normally due the second class period after the assignment; otherwise, the due date will be specified with the assignment. Homework is due in class; otherwise, leave it in the office mailbox. Professor mailboxes are just inside the math library door - BOUILLON 107. The absolute deadline is 5:00 pm of the day due. The door is locked at 5:00 pm.

Late homework will not be accepted. It is essential to keep up in the course. Since accidents, car problems, court appearances, deer hunting season, illness, job interviews, oversleeping, overtime, tournaments, and weather happen, the lowest homework grade will be dropped.

DO NOT email homework. DO NOT staple different assignments together. Make sure different assignments are separated. All homework will be completed in pencil, on one side of (preferably engineering) paper, and in numerical order. Homework that involves a computer (*MATHEMATICA, EXCEL, or MAPLE*) component should be attached to the back of the corresponding written assignment. The professor reserves the right to refuse homework assignments that do not meet all criteria.

Exams

Exam dates are Wednesday February 4, 2009 and Wednesday March 4, 2009. Exams are comprehensive and cover all material discussed in class since the previous exam. Completing the exam in the time allotted is part of the exam. Taking an exam is an important part of the course. Nevertheless, scheduling complications sometimes occur. An alternate procedure for taking an exam due to a scheduling complication must be arranged in advance. One such make-up will be allowed for each student. This policy will not changed due to any circumstances.

Final Exam

The final MUST be taken to pass the course. The final is comprehensive, covers all material discussed in class, and is to be taken at the time scheduled by Central Washington University. Completing the final in the time allotted is part of the final. The final exam for Winter 2009 is Tuesday March 17, 2009 from 8 am to 10 am.

Grading

Everyone is graded the same way. NO EXCEPTIONS. Letter grades A/A-/B+/B/B-/C+/C/C-/D+/D/D-/F are based on a strict 93-100/90-92.9/87-89.9/83-86.9/80-82.9/77-79.9/73-76.9/70-72.9/67-69.9/63-66.9/60-62.9/BELOW 60 cutoff. Grades are not rounded either up or down.

Problems are graded on a 10-point scale: (A) 9 or 10; (B) 8; (C) 7; (D) 6; (F) 0 to 5. Problems are graded by the clear and evident content of what is actually written down and nothing more. Your solution to a problem must clearly show a grasp of relevant concepts as well as a correct result for full credit. Organization counts. Neatness counts. If an approach is specified in a problem, then that approach must be used (as indicated by procedures written on the paper) in solving the problem. If no approach is specified, then any valid method is acceptable.

Keep all exams, homework, quizzes, and other graded material for study and for verifying records on Blackboard. The course grade can be calculated at any time by calculating a weighted average with the following proportions:

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\begin{aligned}
Quizzes &\longrightarrow 10\% \\
Homework &\longrightarrow 30\% \\
Exams &\longrightarrow 30\% \\
Final &\longrightarrow 30\%
\end{aligned}
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Calculators

Calculators may be used on homework, quizzes, and exams unless specifically announced otherwise in advance. When a calculator is used in solving a problem, it is the student's responsibility to correctly operate the calculator and to demonstrate an understanding of the solution by providing appropriate detail. Calculators that perform differentiation and integration, such as the TI-89, will not be allowed on exams. The TI-83 or TI-86 are highly recommended.

Special Needs Statement

As soon as possible, students with disabilities who wish to set up academic adjustments in this class should provide a copy of their "Confirmation of Eligibility for Academic Adjustments". Eligible students without this form should contact the Disability Support Services Office by visiting Bouillon 205, emailing dssrecept@cwu.edu, or calling the phone number 509-963-2171.