

## COURSE DESCRIPTION

Department and Course Number	<b>CS 250</b>	Course Coordinator	<b>Reilly</b>
Course Title	<b>Discrete Structures</b>	Total Credits	<b>3</b>

**Current Catalog Description**

*Discrete structures for computer science, including sets, functions, elementary propositional and predicate logic, Boolean algebra, elementary graph theory, proof techniques including induction and contradiction and combinatorics.*

**Textbook**

*Mathematical Structures for Computer Science, 5th ed., by Judith L. Gersting, W.H. Freeman and Co., 2003.*

References *None*

**Course Goals**

*To introduce to the student those topics in discrete mathematics which are fundamental to the study of computer science.*

**Prerequisites by Topic**

*Introduction to Object-Oriented Programming and Pre-Calculus Mathematics with grades of C or better*

**Major Topics Covered in the Course**

*Formal logic, proofs, recursion, analysis of algorithms, relations, functions, graphs, Boolean algebra, computer logic, computation, and languages.*

Laboratory projects (specify number of weeks on each) *None*

**Estimate CSAB Category Content**

	CORE	ADVANCED		CORE	ADVANCED
Data Structures	_____	_____	Computer Organization and Architecture	_____	_____
Algorithms Software Design	10 _____	_____	Concepts of Programming Languages	_____	_____

## Oral and Written Communications

*Every student is required to submit at least 0 written reports (not including exams, tests, quizzes, or commented programs) of typically 0 pages and to make 1-2 oral presentations of typically 5-10 minute's duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.*

*Time permitting, which it usually isn't for all students to participate at full.*

## Social and Ethical Issues

*None*

## Theoretical Content

*100% of the course is theoretical content, including coverage of formal logic, proofs, recursion, analysis of algorithms, relations, functions, graphs, Boolean algebra, computer logic, computation, and languages.*

## Problem Analysis

*Somewhere between 4-6 (averaging 5) assignments are handed in and graded.*

## Solution Design

*The student must follow an analysis with a plan to solve the problem (design) and then "Implement" the solution(s). Evaluation may be required.*