

# **Comp 280 -- Discrete Mathematics**

## **Comp 280 Web Page**

<http://www.owlnet.rice.edu/~comp280/10spring/>

## Instructors

Professor Ron Goldman

DH-3116

[rng@rice.edu](mailto:rng@rice.edu)

Tuesday, Thursday 2:00-3:00PM (or by appointment)

Dr. John Greiner

DH-3093

[greiner@rice.edu](mailto:greiner@rice.edu)

Monday, Wednesday 2:00-3:00PM (or by appointment)

## Labbies

Mitchell Koch

e-mail: [mkoch@rice.edu](mailto:mkoch@rice.edu)

Labbie #2

e-mail:

## Text and Syllabus

### *Text*

- Discrete Math and Its Applications (Sixth Edition) -- Rosen

### *Syllabus*

- Chapters -- 1, 2, 3.1-3.3, 4-10, 12 (not Chapter 11)
- May Skip Some Sections
- Will Begin in Chapter 4 (Induction and Recursion)
- Pace -- 1 or 2 Sections/Lecture

## Topics

- I. Induction and Recursion (Chapter 4) -- 2 Weeks
- II. Complexity (Chapter 3) -- 1 Lecture
- III. Graphs and Trees (Chapters 9, 10) -- 2-3 Weeks
- IV. Logic (Chapter 1) -- 1 Week
- V. Naive Set Theory (Chapter 2) -- 1 Week
- VI. Functions and Relations (Chapters 2, 8) -- 2 Weeks
- VII. Counting and Combinatorics (Chapters 5, 7) -- 2 Weeks
- VIII. Discrete Probability (Chapter 6) -- 1 Week
- IX. Finite Automata (Chapter 12) -- 2 Weeks

## Homework

### *Weekly*

- Due each Thursday at START of Lecture
- 10-15 Exercises from Textbook (Rosen)
- Even Numbered (Odd Numbered Solutions in Book)
- Solutions Sets -- After Homework is Collected

### *Grading*

- 25% of Final Grade  $\approx$  2% per Week
- Must Work Alone, NOT in Study Groups (Honor System)  
-- Can Seek Help Only from Instructors

## Programming Projects

- Some weeks the class may be assigned programming projects instead of written exercises.
- Still under consideration.



## Written Essays

### *Daily*

- Due at START of Every Lecture

### *Purpose*

- To Prepare Students for Class Discussion

### *Format*

- One Typed Page
- Grammatically Correct and Coherent English Sentences
  - See Ron's Rules for Good Writing
  - Violators of Ron's Rules Must Rewrite their Essay

## Written Essays (continued)

### *Topic Headings*

- Main Themes of the Text -- Not a Summary
- What I Learned from Reading the Text -- Not a Summary
- What I Did Not Understand in the Text
- Questions on the Text and on the Exercises

## Extra Credit Homework

### *Weekly*

- Due each Thursday at the Start of Lecture
- 1 or 2 Hard Problems -- From Text or Made Up by Me

### *Purpose*

- Raise Your Final Grade
- Exempt *A Students* from Final Exam

### *Rules*

- Must Work Alone, NOT in Groups (Honor System)
- Can Discuss ONLY with Me

## Extra Credit Projects (Optional)

### *Program or Essay*

- Topic by Consent of the Instructor

### *Purpose*

- Raise your Final Grade
- Exempt *A Students* from Final Exam

## Rules for Handing in Homework

### *Exercises*

- One Problem per Page
- Type or Ink -- Pencil Forbidden
- Write Large

### *Essays*

- Must be Typed
- Do NOT Summarize the Text
- Try to Keep to One Page

**VIOLATORS WILL RECEIVE ZERO CREDIT**

## Exams

### *Quantity*

- 3 Exams -- 1 Every 5 Weeks
- Each Exam = 25% of Final Grade
- More than Half the Questions are Exercises from the Text and from the Homework

### *Format*

- Timed Take Home
- Closed Book and Closed Notes
  - One Page of Formulas, Handed in with Exam
- Must Work Alone (Honor System)

## Grading

### *Exams*

- 3 Exams -- Each Exam is 25% of Final Grade

### *Homework*

- Weekly Assignment = 25% of Final Grade  $\approx$  2% per Week

### *Attendance and Daily Essay*

- Mandatory -- Minus One Point on Your FINAL GRADE for Each UNEXCUSED Absence or Missing Essay

## Late Policy

### *Slip Days*

- Each Student gets 3 Slip Days during the Semester.
- If you are ill or have another reasonable excuse, you do NOT need to take a Slip Day.
- Slip Days may be Used Only for Weekly Exercises, NOT for Written Essays or Exams.
- Once your 3 slip days are used up, any work you hand in late will receive zero credit.



## How to Study

1. *Solve Problems, Solve Problems, Solve Problems*
2. *Do Unassigned Exercises in the Text Every Week*
  - Do NOT Wait Till Exam Week -- Too Many Problems
  - Do NOT Attempt All the Exercises -- Too Many
3. *Spend Time = 10 Hours/Week*
  - 2.5 Hours = Lecture
  - 2.5 Hours = Reading the Text
  - 5 Hours = Exercises

## **Definition of a C Student**

## **Definition of a C Student**

*A Student who Does Only the Assigned Work*

## Weekly Lab

### *Purpose*

- Work on Problems
- Ask Questions
- Review Material

### *Date and Time -- Optional*

- Class Decision

## Essay for Thursday, January 14

*Read Rosen, Section 4.1 -- Pages 263-279*

- Skip Example 10

*Read Rosen, Appendix A-1 -- Page A-5*

- Axioms for the Set of Positive Integers

*Write 1 Page Essay -- Due at Start of Class on Thursday*

- Main Themes of the Text -- Not a Summary
- What I Learned from Reading the Text -- Not a Summary
- What I Did Not Understand in the Text
- Questions on the Text

## Symbols in Rosen

$\vee$  means OR

$\wedge$  means AND

$\rightarrow$  means IMPLIES

$\forall$  means FOR ALL