CSCI 1323 (Discrete Structures), Spring 2001

Syllabus

1 Course description

This course focuses on the mathematics needed for success in computer science. As such, the course will address a variety of topics, including propositional and predicate logic, proof techniques (including mathematical induction), the algebra of sets (including relations and functions), elements of the theory of directed and undirected graphs, and the application of these topics to various areas of computer science.

The objectives of this course include, but are not limited to, the following:

- Learning formal logic.
- Learning proofs, recursion, and analysis of algorithms.
- Learning sets, relations, and functions.
- Learning graphs and graph algorithms.
- Applying these concepts to various areas of computer science.

2 Basic information

Class meeting times and location:

TR 9:55am – 11:10am, Halsell 228

Prerequisites:

None.

Instructor:

Dr. Berna Massingill

Office: Halsell 201L

Office phone: (210) 999-8138

Web page: `http://www.cs.trinity.edu/~bmassing`

E-mail: `bmassing@cs.trinity.edu`

Office hours: MW 12:30pm – 3:30pm, TR 2:00pm – 4:00pm, and by appointment

3 Course materials

Textbook:

Judith L. Gersting. *Mathematical Structures for Computer Science.* Freeman Publishing, fourth edition, 1999.

Web page:

Most course-related information (this syllabus, homework and reading assignments, etc.) will be made available via the World Wide Web. The home page for the course is not only a starting point for Web-accessible course material but will also be used for course-related announcements. Please plan to check it frequently. You can find it linked from my home page (`http://www.cs.trinity.edu/~bmassing`) or directly at `http://www.cs.trinity.edu/~bmassing/CS1323_2001spring/`.

Other references:

- Norman Biggs. *Discrete Mathematics.* Oxford, 1989.
- Bernard Kolman and Robert C. Busby. *Discrete Mathematical Structures for Computer Science.* Prentice Hall, second edition, 1987.
- Joe L. Mott, Abraham Kandel, and Theodore P. Baker. *Discrete Mathematics for Computer Scientists and Mathematicians.* Prentice Hall, 1986.
- Fred S. Roberts. *Discrete Mathematical Models.* Prentice Hall, 1976.

4 Course requirements

Grading:

Grades in this course will be determined by the results of three major exams and selected homework assignments. Each midsemester exam will be worth 100 points, the final exam will be worth 200 points, and together the homework assignments will be worth approximately 200 points, with the weight of individual assignments determined by their length and difficulty. Numeric grades will be calculated as a simple percentage, by dividing points earned (on homework assignments and exams) by points possible. These numeric grades will then be converted to letter grades based on a curve, but in no case will the resulting letter grades be worse than students would receive based on the following scheme:

Numeric grade	Letter grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Exams:

Exams are comprehensive but will emphasize the most recent material. They are scheduled as follows. Please plan accordingly.

- Exam 1: February 22, in class.
- Exam 2: April 5, in class.
- Final exam: May 5, 8:30am.

Homework assignments:

Homework will be assigned approximately once a week. Detailed requirements, including due dates and times, will be provided as part of each assignment; normally you will have about a week per assignment. Because of the volume of homework, not all assignments will be collected and graded; you will be told when an assignment is made whether it will be collected. It is nevertheless essential that you do all assignments; doing the problems will increase your understanding of the material and prepare you for the exams.

Attendance:

Regular class attendance is strongly encouraged.

Late and missed work:

Exams can be made up only in cases of documented conflict with a university-sponsored activity or documented medical emergency.

Homework will normally be accepted up to one class period late, *but no more*, at a penalty of 10 percent off per working day. This penalty may be waived or additional time allowed *at the instructor's discretion* in cases of illness or conflict with a university-sponsored activity.

If you have unusual circumstances (as we all sometimes do), please discuss these with the instructor in advance.

Collaboration and academic integrity:

Unless otherwise specified, all work submitted for a grade (homework assignments and exams) must represent the student's own individual effort. Discussion of homework assignments among students is encouraged, but not to the point where detailed answers are being written collectively. Answers that are identical beyond coincidence are in violation of Trinity's Academic Integrity Policy and will result in disciplinary action, including, but not limited to, a failing grade on that assignment for all parties involved. You are responsible for the security of your work, both electronic and hard copy.