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CSCI 226-01 Math Foundations for Computer Science

Michael Goldweber

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Math Foundations for Computer Science
CSCI 226-01

Instructor: Michael Goldweber
Office: 134 Hinkle, 745-3936
e-mail: mikeyg@cs.xu.edu
home page: http://www.cs.xu.edu/~mikeyg
Office hours/Personal Schedule: http://www.cs.xu.edu/~mikeyg/schedule14s.html
Course Home Page: http://www.cs.xu.edu/csci226/14s
Schedule: Lectures are Mondays, Wednesdays, and Fridays 9:00-9:50 p.m. in Hailstones 100x.
Additional readings as assigned.
Prerequisites: Foundations of Higher Mathematics (Math 225)
Course Objectives: Computer science, like mathematics, deals significantly with proofs. In computer science the proofs are often related to discrete structures: sums, sets, graphs, trees, etc. This course will introduce one, in great detail to these discrete structures, and will focus not only on mastering the basic properties of these structures, but on proof techniques for working with these structures: Math Foundations for Computer Science.
Required Work: Weekly (or sometimes bi-weekly) Homework assignments. While you are expected to submit a solution to each assigned problem, only a subset of the assigned problems on each homework assignment will be graded.
All assignments will be due at the beginning of class time on the announced due date, AND WILL BE COLLECTED AT THE BEGINNING OF CLASS. No late work will be accepted. It is recommended that you submit your best work on time than to give an answer to all the problems. If you cannot solve a problem you should indicate as such and also provide some statement of what your ideas were, where you got stuck, and where you were hoping to take your ideas to.
Examinations: There will be three midterm examinations. The dates for these three exams will be announced at least one week prior to each exam. These exams will occur sometime around the beginning of February, the beginning of March and the beginning of April. (i.e. Right before both Spring and Easter Breaks.) Each examination will begin in the early evening and be somewhat "open ended" with respect to time.
The cumulative final exam is scheduled for Friday May 9, 8:00-9:50 p.m. Use this date to make your travel plans accordingly - its the last day of finals!
The no BS rule will apply to all the course examinations - limit one use per examination.
Attendance and Classroom Participation: While there is no formal attendance policy, you are expected to arrive prepared to ALL course sessions. Furthermore you are expected to participate in the classroom discussions and activities to the best of your abilities. Given the difficult nature of the material and the interactive lecturing approach that will be used, it is difficult to envision a student missing and/or arriving unprepared to a number of the class sessions and still succeed in the course.
Grading: The breakdown is as follows:

- Homework: 35% of your total grade. One special towards the end of the semester assignment will be a paper on the auxiliary reading, The Number Devil.
- Midterm examinations: 15%/each.
- Cumulative Final Examination: 20%

The Department of Computer Science and Mathematics has adopted the following grading standards:

A: Exceptional. The student's attainments are out of the normal course, unusual and special.
B: Good. The student's performance is done rightfully or skillfully and is commendable.
C: Satisfactory. The student's accomplishments are sufficient for the needs of the course.
D: Minimal passing.
F: Failure.

A more detailed explanation can be found at:
Also see http://www.cs.xu.edu/~mikeyg/CourseEngagementStandards.html for a
description of the "Course Engagement Standards."

Exceptions to the Rules: Almost all rules are designed to be broken under the correct set of extraordinary
circumstances. It is strongly recommended that you communicate to the instructor at the earliest possible
time any circumstances you feel warrant an exception (e.g. illness, religious holiday, personal and/or family
crisis, etc.). Remember that going into hiding is probably the worst strategy you can adopt! There is a direct
relationship between the amount of sympathy you can anticipate from an instructor and the amount of time
remaining until a given assignment's due-date. Finally, remember that if you are uncomfortable discussing
something directly with an instructor (e.g. personal problems) you can always contact someone in the Dean
of Students Office and have that individual contact the instructor.

Honor Code: Homework can be challenging - it's where you find out what confuses you. You are strongly
couraged to discuss the homework with your classmates or with the instructor (and where appropriate,
the math tutoring lab). In the end though, all work submitted must be your own. You must work out, write
up, create, or program your own solutions. Work you hand in must be conceived, created, and fully
understood by you.

The best way to ensure this is to craft your solutions/answers/programs when you are by yourself rather
than during your discussions with others. This will insure that your work is based on your own
understanding rather than on that of your classmates. To do otherwise is a violation of the college's policy
on academic honesty and will be handled accordingly. Please refer to the rules described in the Student
Handbook.

I encourage you to follow these two guidelines, stated on many course websites, but perhaps originating
most recently at Duke University.

- **The Gilligan's Island Rule:** Essentially, the idea is that when you meet to discuss problems, it is
  fine to have a communal board or paper to work out your ideas, but this record should be
  destroyed at the end of the session. Then, everyone should spend at least thirty minutes doing a
  relatively mindless task (like watching reruns of a brainless show - e.g. Gilligan's Island). This
  rule helps everyone be sure that the work they create truly represents their understanding of the
  material.

- **List of Collaborators:** If you discussed the problems with others, include their names in your
  writeup, either at the beginning or end of the problem, or in a section specifically designated as the
  list of collaborators. (If you have the same collaborators on all problems, a single listing is fine. If
  it varies by problem, list on a problem-by-problem basis.)

Remember, un-noted collaboration or any form of cheating will be dealt with harshly to protect the
integrity of everyone involved.

Always remember:

**Don't Panic**