CS 1800, Section 1, Discrete Structures  
Spring 2017

Instructor Information
Dr. Ben Schafer  
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273-2187

Office Hours (my schedule)
• MWF, 9:00-9:50 AM, 11:00-11:50 AM and 1:00-1:30 PM  
• By appointment (send me an email if my office hours don’t fit your schedule)  
• Any time my office door is open

Course Information
Time and Place: MWF 12:00 PM, ITTC 328
Required Text: You will be required to purchase online access to the textbook Discrete Math” from zyBooks (zyante.com). Separate instructions are posted on the class website on how to register and purchase this textbook.
Prerequisite or Co-requisite: One of the introductory programming courses (CS1510) and a mathematical background sufficient to take college pre-calculus. Talk to me if you are concerned about these requirements.
Class Website: http://www.cs.uni.edu/~schafer/1800/  
You are responsible to check here frequently for notes, announcements, assignments and grade updates.

Course Description
Discrete Structures is a core course in Computer Science curriculum. It is a required course for all CS majors and the CS minor. The course focuses on key mathematical concepts used in programming and the discipline of CS in general. Topics include an introduction to logical forms, arguments, predicates, and quantified statements; methods of proof; elementary number theory; counting; sequences; sets; functions; relations; graphs; and Boolean algebra in the context of computer science.

General Course Goals/Outcomes
Students should be able to:
• Apply principles of mathematical logic to software development  
• Use proof techniques to derive equalities, inequalities and summations commonly used in computer science  
• Use counting techniques to compute the number of elements in a set and to derive probabilities of events  
• Become familiar with mathematical foundations of basic data structures such as sets and trees  
• Perform basic operations on data structures  
• Write functions in recursive form  
• Derive the asymptotic classes of functions

Class Policies
Class meetings will consist of a mixture of short lecture, discussion, and in class activities. I expect you to 1) read assigned readings and 2) complete the participation activities prior to each class session. These will be posted one or two class sessions in advance (if you do not see the assignments for the next class session posted shortly after class PLEASE send me an email to point out the problem).

Since we will frequently discuss material that is beyond what you read in your textbook, attendance is essential.

You should obtain a spiral notebook or three ring binder that will be your “class notebook.” You should take notes over the reading assignment into this notebook. You may copy any online problems or complete any extra problem sets in this notebook. You should make notes about each lecture in this notebook. Anything handwritten in your notebook will be available for use on exams.

Textbook Participation Activities (50 points, adjusted**) Each assigned reading in your textbook should contain one or more sections labeled “Participation Activities” These are to be completed by 11:00 AM on the day that they are due (the day of lecture). NOTE that this means they are due an hour before your class actually meets. This is to give me time to review your responses to these activities and see where the class is having trouble. Failure to complete the activities by that time will result in a score of zero for that day’s activities.
**In-class Participation Activities** (50 points, adjusted**) Most days during class I will ask you to work in small groups to complete one or more activities. These activities will be collected and assigned participation points. Only those students present in class may earn these points. If you are not in class that day you will receive a score of zero for that day’s activities. These may not be "made up" under any circumstances.

**I understand that due to schedules you may not always complete every textbook participation activity. Similarly, you may miss class for any number of legitimate (or even illegitimate reasons). Thus, for both of these sets of activities I will adjust your grade such that you will receive 50 points if you successfully completed 85% of the activities. Those earning fewer than 85% of the activity points will earn a score adjusted proportional to this ratio (50 points for 85% of the credit). Those earning more than 85% of the points MAY earn extra credit based on the amount of overage.**

**In-Class Exams** (4 at 100 points each) There will be four in-class exams this semester. All exams are closed textbook but open “class notebook.” Anything that you have handwritten into your notebook is available for use on the exam. All other sources, including your textbook, other textbooks, old quizzes/exams, class handouts, photocopies, printouts, and other students are considered off limits during these evaluations – unless you have handwritten the information from these sources in to your notebook.

Tentative dates for these exams are posted on the class schedule. The exact date of each exam will be announced approximately one week prior to the exam. If you are aware of conflicts prior to the exam, please make me aware of these as early as possible.

**Final Exam** (1 exam at 150 points) – The final exam for this course will be administered according to university’s official exam schedule – Monday, May 1st from 1:00-2:50 PM. The final exam will be part final unit exam and part comprehensive exam.

**Additional Activities** (up to 50 additional points) – I reserve the right to assign as many as 50 additional points beyond those described here for activities as yet to be determined.

**Grading**
Grading for this course is on an absolute scale. Thus, the performance of others in the class will not negatively affect your grade. Final grades will be assigned based on cut off points no “higher” than the traditional 90% for the As (A or A-), 80% for Bs, 70% for Cs, and 60% Ds. These may be adjusted down slightly based on the complexity of the homework and exams that I assign.

**Incompletes**
Incompletes are awarded only in very rare instances when an unforeseeable event causes a student who has completed all the coursework to date to be unable to complete a small portion of the work (typically the final exam). Incompletes will not be awarded for foreseeable events including a heavy course load or a poorer-than-expected performance. Verifiable documentation must be provided for the incomplete to be granted, and arrangements for the incomplete should be made as soon as such an unforeseeable event is apparent.

**Class Distractions**
We live in a technological society. Many of you now carry a variety of electronic devices with you including smartphones, laptops, tablets, etc. You may think that you can text/surf the web during class and still follow the lecture, but the research clearly demonstrates this just isn’t true.

In most classes I have a “no electronics” policy. However, we have an online textbook that you MAY want to reference during class. As such, I will ask you limit your use of these devices to the class activities – accessing the online textbook. Unless we have discussed it in advance (such as in the case of a family medical emergency), all electronic devices should be left out of sight when not being used for class activities.

**Accessibility**
The Americans with Disabilities Act of 1990 (ADA) provides protection from discrimination for qualified individuals with disabilities. Students with a disability, who require assistance, will need to contact the Office of Disability Services (ODS) for coordination of academic accommodations. The ODS is located at 213 Student Services Center. Their phone number is 319/273-2676. Additionally, please contact me immediately if you have a learning or physical disability requiring accommodation