Semester: Summer Term I, 2017
Course Number: CISC 1100
Course Title: Structures of Computer Science
Faculty: Dr. A. G. Werschulz
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   E-mail: agw@dsm.fordham.edu
   WWW: http://www.dsm.fordham.edu/~agw/structures
   Office Hours: Tuesdays–Thursdays: noon–1:00 p.m.
      (or by appointment)
Class email list: structures-cs@dsm.fordham.edu
Catalog Description of Course: An introductory course in the discrete structures used in computer science and information technology. Emphasis will be placed on the ability to solve problems and develop logical thinking. Topics such as sets, functions, elementary combinatorics, discrete probability, logic, Boolean algebra, recursion and graphs will be covered through the use of algorithmic and concrete construction. The learned materials are reinforced by computer laboratory assignments. This course fulfills the mathematical reasoning requirement for Fordham’s core curriculum.
Course Outline (Topical):
   Sets and sequences
   Logic
      Propositional logic
      Predicate logic (time permitting)
   Relations
   Functions
   Counting
   Probability
   Algorithms (time permitting)
   Graph theory (time permitting)
Protocol:
   Attendance and class participation: Learning is an interactive process that begins in the class room, continues at home, and picks up back in the classroom. Attendance is necessary to accomplish the objectives of this course. Over the summer this is of even greater importance, since there are only fifteen class meetings. You are limited to four excused absences. Additional absences or unexcused absences will result in a marked decrease in your final grade. Class participation is counted as follows:
   (1) Each day will be graded on a five-point scale.
   (2) If you show up for class on time, you will get three points.
   (3) If you show up more than 5, 10 or 15 minutes late for class, you will lose (respectively) 1, 2, or 3 points.
   (4) Whenever you contribute to the class discussion, you will gain one point. This would typically include:
      (a) Asking or answering a question about the homework.
      (b) Answering or answering a question about the material being presented in class, or making a germane comment about same. However, you cannot earn more than five participation points on a
given day. On the other hand, if you show up late, you can offset your “lateness deficit” by participation, i.e., you could get five participation points by (say) asking or answering three questions.

(5) When homework is due on a given class day, I will ask whether there are questions regarding same. If nobody responds in the affirmative, I will assume that you all were able to do the homework. In this case, I will pick somebody at random to answer the question at the board. If said person is not able to answer the question, s/he will lose one participation point. So please be prepared to either ask questions about the homework, or to answer them.

Examinations: There will be one midterm examination, which will be held on Tuesday June 13, during the first half of the regular class period. The final exam (which is on Thursday, June 29, during the regular class period) is cumulative. By this, I mean the following:

(1) You won’t be able to answer questions about material appearing later in the course if you don’t understand material that appeared earlier in the course. That’s simply the nature of the subject.

(2) I reserve the right to put questions involving this earlier part of the course on the final exam (especially if I felt that there was some topic from the first part of the course that people didn’t understand). These examinations will focus solely on the mathematics portions of the course. When possible, I will provide you with a study guide and/or a practice exam.

Homeworks: I will assign homework nearly every day, posting it on the class website. Homework will be due at the next class session. I will mightily endeavor to return the graded homework sets at the next class session after that one.

Computer Projects: We will be working on two large multi-part projects during the course. One will cover web development, and the other will be an introduction to computer programming. No prior knowledge is expected but these are projects that you will need to spend time on outside of the class in addition to any in-class time that I provide. This requires that you have access to a computer and the Internet during these times. If you do not there are several places on campus that are suitable to complete this work. Please speak with me if you think there will be a problem.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Computer projects</td>
<td>15%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final exam</td>
<td>30%</td>
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A student failing all of the exams cannot pass the course. Additionally, failing to complete homework and/or computer projects on deadlines set by the instructor can and will cause a reduction to the individual’s final grade.

Readings: We hope to cover most of the material in Chapters 1–7. Time permitting, we’ll get into Chapters 8 and 9.

Electronica: You may not use laptop computers, tablets, or mobile phones during the class period.

Academic Integrity: To begin with, you should familiarize yourself with the University’s policy on Academic Integrity, which may be found at

http://www.fordham.edu/info/25380/undergraduate_academic_integrity_policy

Pay special attention to the Standards of Academic Integrity. As a corollary to same, you are not to pass off someone else’s solution to any homework exercise (including programming problems) as your own, regardless of whether you obtained it from a fellow student, an acquaintance, or from the Web. Analogously, you should take all reasonable necessary steps to prevent other people from stealing your work; in particular, when you write a program on the Departmental Linux systems at Lincoln Center, it should be located in (an appropriate subdirectory of) your private directory.
Additional Remarks:

There will be no make-up exams given after the exam date. If you know in advance that you will have to miss an exam, you must check with me (in advance) to avoid getting a zero for that exam. In case of illness on an exam date, please contact me as soon as possible, so that appropriate arrangements can be made.

As noted above, this course has a website, which you should visit for announcements, assignments, and links to useful resources.

If you believe that you have a disabling condition that may interfere with your ability to participate in the activities, coursework, or assessment of the object of this course, you may be entitled to accommodations. If so, please schedule an appointment to speak with me immediately or you may go to the Office of Disability Services (Room LL207, x6282). Under the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973, all students, with or without disabilities, are entitled to equal access to the programs and activities of Fordham University.