

# CSC 156-002 Spring 2021 - Discrete Structures

## Prof. A. Wittenstein

### Contact Information

Office: Science 415

Email: [Wittenstein@adelphi.edu](mailto:Wittenstein@adelphi.edu)

Course Web Page: <http://www.adelphi.edu/~wil6133/csc156/s21>

Office Hours: MW 5:30-6:00pm in UC 1314 / ZOOM, or by appointment

### Class Meetings M/W 4:15-5:30pm, UC 1314 / ZOOM (W 1/27 → M 5/10)

W 3/10 No Adelphi classes

M 5/3 No Adelphi classes

T 5/11, W 5/12, Th 5/13 Makeup Days (if needed)

W 5/19: Final Exam 3:30-5:30pm

### Prerequisites none

### General Education Requirements

This course satisfies:

- Learning Goals: Quantitative (Q).
- Distribution Requirement: Formal Science (FS).

### Course Description

- Learn the concepts of Set Theory, Mathematical Logic, and Boolean Algebra, and their underlying similarities. Learn how to use quantifiers. Learn the basic proof technique of Induction. Learn how to analyze algorithms. Learn how to use and apply Permutations, Combinations, Recurrence Relations, and Combinatorial Circuits.
- This is basically a math course, but it's a completely different kind of math from precalculus or calculus; it feels like it uses a different part of your brain.

### Course Learning Goals

Students completing this course will:

- Use the laws of deductive logic
- Read and write mathematical proofs using Induction
- Solve combinatorial counting problems
- Create and analyze mathematical models of real-world problems

### Grading

Assignments/Quizzes = 50%

Midterm Exam = 20%

Final Exam = 30%

\*The final course grade corresponding to each final numerical course grade will be no lower than:

A+ = 97 & up	A = 93-96.9	A- = 90-92.9	B+ = 87-89.9	B = 83-86.9	B- = 80-82.9
C+ = 77-79.9	C = 73-76.9	C- = 70-72.9	D+ = 67-69.9	D = 63-66.9	D- = 60-62.9
					F = 0-59.9

### Attendance

**Attendance is required.** After four absences, your grade will be lowered by one-third of a grade (e.g., A to A-, A- to B+, etc.). You are also responsible for whatever work is covered in class **whether or not you are there**. Absence from quizzes, exams, and in-class assignments will be excused only for a good and **well-documented** reason. The decision to allow a make-up quiz or exam will be made in accordance with the policies of Adelphi University.

Please arrive to class *on time* whenever possible. Also, lateness or leaving early will count as partial absences. But, I would much rather you arrive late or leave early, then miss an entire class session. If you know in advance that you will be absent or late for a class, please e-mail me to let me know. If you need to be absent for any class meetings due to religious observance, please notify me within the first two weeks of the semester.

If I know in advance that I will be absent or late for a class, then I will post this information to Moodle, and Moodle will automatically send an e-mail to your Adelphi e-mail account. ***In the rare case that I am not present at the start of class and there is no announcement on Moodle, then you should wait until at least 4:35pm, as I am probably just running late.***

## **Course Materials**

### **Required Textbook**

- *Discrete Structures*, 8<sup>th</sup> Edition by Richard Johnsonbaugh published by Pearson. ISBN: 978-0-558-68102-9. (Print book or e-book acceptable – make sure it is the **CORRECT EDITION!**)

### **Moodle Learning System**

- All grades (for assignments, quizzes, and exams) will be posted to Moodle.
- All lecture PowerPoint slides & assignments will be posted to Moodle.
- If a class meeting is cancelled for any reason, you are required to log on to the class Moodle page for instructions and assignments. **If the University is closed for more than two days due to an emergency, log onto MOODLE each class day for instructions and assignments.**
- Whenever announced, assignments are to be submitted through Moodle.

## **Course Topics**

Sections 1.1-1.6: Sets and Logic

Section 2.4: Mathematical Induction

Sections 3.1-3.4: Functions, Sequences, and Relations

Sections 5.1-5.3: Number Theory and Algorithms

Sections 6.1-6.2: Counting, Permutations, and Combinations

Sections 7.1-7.2: Recurrence Relations

Sections 11.1-11.3: Combinatorial Circuits and Boolean Algebras

\*A day-by-day calendar can be found on Moodle. This calendar will be updated throughout the semester as dates may shift, such as when a topic which is planned for 1 day actually takes 2 days, or vice-versa.

## **Course Assignments**

Since this course meets for three credit hours per week, it is expected that on average you do about 6 hours of work for this course per week outside of class time (including reading / studying / assignment completion):

### **Reading Assignments**

While class meetings will highlight most parts of the material, you are expected to complete the reading assignments on the calendar for each class meeting, as it provides additional examples and explanations of the material. *Quizzes and exams will assess understanding of classroom and textbook material. So, make sure to ask about anything you do not fully understand prior to each assignment due date, quiz, or exam.*

### **Practice Homework Exercises**

For each section of the text we cover, a list of selected practice exercises from the textbook will be provided. While these will not always be graded, completion and understanding of the exercises is necessary to succeed on quizzes and exams in this course.

### **Graded Assignments**

Assignments that are graded will be graded for accuracy and completeness, not just on whether they were attempted. Late assignments will be penalized 10% per calendar day (including weekends and holidays). However, if the instructor is notified in advance that an assignment will be late for a valid reason (starting the assignment too late, not knowing how to do an assignment, and/or computer trouble on or near the due date are NOT valid reasons), the late penalty may be reduced or eliminated. Also, late submissions may not be accepted for any credit once grading and/or post-mortem feedback have been provided to the class and/or any of its students for a particular assignment.

## **Class Meetings**

- Students are not to use phones or computers during class time, unless needed for note taking. *Students not following this policy may be asked to leave the class, in which case they will be marked absent for the day.*
- Homework assignments are not to be worked on and not to be submitted during class time. *The penalty for this will be a grade of ZERO on that assignment – no warnings or exceptions!*

## **Academic Honesty**

Students enrolled in this course are expected to abide by Adelphi University's Honor Code and its policies on Academic Honesty, which can be viewed on the web at <http://academics.adelphi.edu/policies/honesty.php>. The purpose of the Honor Code is to protect the academic integrity of the University by encouraging consistent ethical behavior in assigned coursework by students. The following is excerpted from the Student Honor Code:

**The code of academic honesty prohibits behavior, which can broadly be described as lying, cheating, or stealing.**

**Violations of the code of academic honesty will include, but are not limited to, the following:**

- 1. Fabricating data or citations**
- 2. Collaborating in areas prohibited by the professor**
- 3. Unauthorized multiple submission of work**
- 4. Sabotage of others' work, including library vandalism or manipulation**
- 5. Plagiarism: presenting any work as one's own that is not one's own**
- 6. The creation of unfair advantage**
- 7. The facilitation of dishonesty**
- 8. Tampering with or falsifying records**
- 9. Cheating on examinations through the use of written materials or giving or receiving help in any form during the exam, including talking, signals, electronic devices, etc.**

Violations of these standards, including (but not limited to) plagiarism of any portion of an assignment/lab or misconduct during quizzes & exams, will be dealt with in accordance with University regulations & procedures. *In this course, no credit will be given to assignments, or portions thereof, that are substantially similar. I will not try to figure out who copied from whom; it is your responsibility to not let anyone copy your work.*

## **Student Course Evaluations**

About 2 weeks before the start of Final Exams, the course evaluation will become available to you on eCampus. Availability will end just before the first day of the Final Exam Period. Your feedback is valuable to me in making improvements to the course for future students. Please be assured that your responses are anonymous and that the results will not be available to me until after your final course grades are submitted to the University.

## **Student Access Office**

If you have a disability that may significantly impact your ability to carry out assigned coursework, please contact the Student Access Office, (formerly the Office of Disability Support Services) located in Post Hall, First Floor, 516-877-3145, [sao@adelphi.edu](mailto:sao@adelphi.edu). The staff will review your concerns and determine, with you, appropriate and necessary accommodations. When possible, please allow for a reasonable time frame for requesting ASL Interpreters or Transcription Services; a minimum of four (4) weeks prior to the start of the semester is required.

## **Student Counseling Center**

The Student Counseling Center (SCC) provides confidential and professional mental health counseling services, resources, and referrals to support the academic and personal success, health, and well-being of Adelphi students without additional charge. Counselors are available to help students cope with a variety of stressors and personal issues that may interfere with their academic and personal experiences. The Center also supports students who may be feeling suicidal or in crisis. To schedule an appointment, please call (516) 877-3646, stop by the SCC, or e-mail [scc@adelphi.edu](mailto:scc@adelphi.edu). If you need immediate assistance, walk-in services are available during the fall and spring semesters Monday-Thursday, 8:30am-7:00pm; Friday 8:30am-4:00pm. Additional information can also be found by visiting <https://scc.adelphi.edu>.

Need support when the SCC is not available? For 24/7 emergency counseling, referral, or assistance, please contact:

### **Off-Campus Resources**

Long Island Crisis Center (516) 679-1111

National Suicide Prevention Lifeline (800) 273-TALK (8255)

911 (for immediate health-related emergency)

### **Adelphi Office of Public Safety**

Crisis Text Line: Text 741741

Off campus: (516) 877-3511

On campus: Extension 5 on any campus phone

# Spring 2021 COVID-19 Syllabus Addendum for CSC 156-002

## **Student Participation & Recording/Sharing of Video Course Content**

Students enrolled in this course, which is a hybrid/hyflex course, are expected to actively participate in those courses, which includes consenting to be part of recorded class sessions. Classes may be recorded at the instructor's discretion to provide students with access to recordings outside of class (asynchronously). Students enrolled in this course may also be recorded while taking remote exams.

Students are encouraged to remain on camera while learning in a remote or online format to facilitate interactions with instructors and classmates. All students are encouraged to speak with their instructors at the beginning of the semester about any challenges or potential limitations to their on-camera participation in a remote, live-streamed or online class.

Additionally, in order to protect the privacy of other students enrolled in the course, students will refrain from allowing family members or others participate, listen in, or otherwise impinge upon the shared virtual space of the remote or online learning classroom. Students are prohibited from recording or sharing in any way video content from in-person or online classes with others, pursuant to The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99), that protects student privacy. Sharing of content is defined as discussing or disclosing any and all information about a student in the presence of others, electronically, in person, or otherwise. *See also*, the Adelphi University Code of Conduct.

## **Mask Policy**

In accordance with University-wide policy, individuals in our classroom are required to wear masks. In the event that any student does not wear a mask in the classroom, the instructor will ask the student to put on a mask. If the student does not comply, the student will be dismissed from the class. Disposable masks will be provided by Adelphi, free of charge, if needed.

Infractions relating to failure to comply with the requirement to wear a mask may be addressed through the Code of Conduct, available at <https://operations.adelphi.edu/catalog/conduct/>.

More information about masks, distancing and safety guidelines is available at <https://www.adelphi.edu/restart/distancing-hygiene-guidelines/>.

## **Food Consumption in Class**

Individuals in a classroom will not be permitted to consume food unless they have an approved accommodation requiring the ability to eat during class sessions. Such accommodations must be approved through the Student Access Office in the normal fashion. If you have such an accommodation, please notify the instructor prior to the course before or during the first week of classes.

## **Social Distancing**

Our classroom has been equipped to allow for 6 ft social distancing. As you move about the classroom, be mindful of maintaining 6ft of distance (about two arms' lengths) from other people at all times. Classroom furniture is laid out to accommodate social distancing; do not make adjustments unless asked to do so by a faculty member.

## **Protocols for Entering and Leaving the Classroom**

For in-person class meetings: Once you enter the classroom, go directly to an available seat that is furthest from the door possible. By filling the classrooms "from the back," you help to maintain social distancing and protect the health of yourself and your classmates.

When class is dismissed, students should progress out in deliberate fashion, beginning from those located closest to the door. Students should look in the hallway before exiting the room and delay their exit if the hallway is congested. After leaving the classroom, proceed directly out of the building or to your next location and do not congregate in the hallways.

## **Cleaning and Disinfecting**

Adelphi University maintains a rigorous regimen of regular cleaning throughout our campus and has always used hospital-grade products and procedures to ensure a clean campus. In light of the current public health crisis, the University will adhere to best practices of thorough cleaning and disinfection in accordance with CDC best practices for prevention of COVID-19 and the New York State Department of Health guidelines.

As an additional measure, wipes will be supplied in classrooms identified for in person/ on ground classes, to disinfect keyboards, partitions and/or desktops.

## **HVAC**

Adelphi University has made significant upgrades to building HVAC systems to increase external air and to upgrade filtration.

## **In the Event of a Positive Case of COVID-19**

Nassau County Department of Health will conduct contact tracing and inform all those who have been deemed sufficiently exposed of next steps (which would likely include testing and quarantine).

If a space must be closed for disinfection, any occupants will be notified. More information about our Cleaning and Disinfecting Protocols in the Event of a Positive COVID-19 Case is detailed beginning on page 22 of Adelphi's Guide for Returning to the Hybrid Workplace, available at <https://www.adelphi.edu/restart/reports/>.

## **If you Exhibit COVID-19 Symptoms or are Required to Undertake a Quarantine**

Before coming to campus, every individual completes a daily health monitoring checklist. It is extremely important for the health and safety of yourself and your community that you complete the checklist honestly. If you exhibit any of the symptoms of COVID-19 or otherwise are required to stay home after completing the daily health checklist, please notify your instructor immediately.

Similarly, you may be contacted and notified by a contact tracer or other appropriate authority that you have been in close contact with an individual who has tested positive for COVID-19. In such cases, you should notify your instructor that you will be undertaking a quarantine and provide the dates you have been directed to undertake quarantine.

STUDENT ACKNOWLEDGEMENT:

I HAVE READ AND UNDERSTOOD THE SYLLABUS FOR SPRING 2021 CSC 156-002

Signature: \_\_\_\_\_ Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Allergies: \_\_\_\_\_

Accommodations: \_\_\_\_\_

Any dates you will need to miss class: \_\_\_\_\_