

Department of Mathematics and Computer Science, Adelphi University

**CSC 156-002 Spring 2022 – Prof. A. Wittenstein**  
**Discrete Structures (3 credits)**

**Contact Information**

Office: Science 415

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

Course Web Page: <http://www.adelphi.edu/~wi16133/csc156/s22>

Office Hours (on Zoom): M 10:30-11am, W 5:30-6pm, or by appointment

**Class Meetings** M/W 4:15-5:30pm, HHE 215 (W 1/26 → M 5/11)

M 3/14 No Adelphi classes – Spring Break

W 5/11, Th 5/12 Make-Up Days (if needed)

W 3/16 No Adelphi classes – Spring Break

W 5/18: Final Exam 3:30-5:30pm

**General Education Requirements**

This course satisfies:

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

**Prerequisites**

none, other than knowledge of H.S. Algebra

**Course Description**

- Learn the concepts of Set Theory, Mathematical Logic, and Boolean Algebra, and their underlying similarities. Learn how to use quantifiers. Become fluent in the use of the Binary, Octal, and hexadecimal number systems. 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 = 20%

Quizzes = 20%

Midterm Exams (2) = 30%

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, than 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.***

This class meets M/W 4:15-5:30pm. Provided that health conditions allow, most (70%-100%) of our class meetings will be in-person, and in-person attendance is required! Occasionally, we may meet synchronously on Zoom instead (when announced by the professor on Moodle/AU E-mail).

Students who are absent due to COVID-19 (positive test or exposure) can join in-person sessions remotely, via Zoom, on a short-term basis (2 weeks or less) upon obtaining a RED status on Adelphi's daily health screening and then notifying Prof. Wittenstein by e-mail. Otherwise, students must be in the classroom to be marked present for in-person class sessions.

## **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!*

## **Course Materials**

### **Required Textbook and Online Resource**

- Text: *Discrete Mathematics with Applications with WebAssign*, 5<sup>th</sup> edition, by Susanna S. Epp, Cengage, ISBN-13: 978-0-357-03524-5 (*make sure it includes WebAssign and 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**

1.1-1.2: Speaking Mathematically	5.6-5.7: Recurrence Relations
2.1-2.3: The Logic of Compound Statements	6.1-6.2: Set Theory
3.1-3.2: The Logic of Quantified Statements	8.1-8.4: Properties of Relations
4.1-4.5: Number Theory and Methods of Proof	9.1-9.2: Counting and Probability
Supplement: Binary, Hexadecimal, and Octal	TIME PERMITTING
5.1-5.3: Sequences & Induction	1.4,4.9,10.1: Introduction to Graph Theory

\*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.*

### **Graded Assignments**

Be sure to prepare for these assignments by first completing the reading assignments and practice exercises. 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.

## **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 2022 COVID-19 Syllabus Addendum for CSC 156-002

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

Students enrolled in this course are expected to actively participate in the course, 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 (if remote exams are necessary due to public health conditions).

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 current 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/coronavirus/health-wellness-safety/personal-safety-practices/>

You will be informed by Moodle and/or Adelphi E-mail of any changes to this University mask policy (if any) during the semester.

## **Food Consumption in Class**

Due to the current mask policy, individuals in a classroom will not be permitted to consume food or drink a beverage 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. More information is available at <https://access-office.adelphi.edu/accessibility-support-services/>. If you have such an accommodation, please notify the instructor prior to the course before or during the first week of classes.

## **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.

## **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: <https://www.adelphi.edu/it-services/au2go/>. It is extremely important for the health and safety of yourself and your community that you complete the checklist honestly. If you test positive for COVID-19, exhibit any of the symptoms of COVID-19, or otherwise

are required to stay home after completing the daily health checklist, please notify Prof. Wittenstein immediately, and join the class via livestream (Zoom), if possible.

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 Prof. Wittenstein that you will be undertaking a quarantine and provide the dates you have been directed to undertake quarantine. During your quarantine, please join the class via livestream (Zoom), if possible.

### **In the Event of a Shift to Remote Instruction**

Despite our best efforts, we cannot predict the course of the pandemic or of county and state regulation. Adelphi University may be required to change the modality for this course to one suitable for remote instruction at any time; either for a defined period such as two weeks or for the remainder of the semester. *In such a case, this course will continue to meet via Zoom and not in-person during that period.*

STUDENT ACKNOWLEDGEMENT:

I HAVE READ AND UNDERSTOOD THE SYLLABUS FOR SPRING 2022 CSC 156-002

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

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

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

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