

Course Syllabus ~ Spring 2017

COURSE NUMBER: CSC 250
COURSE TITLE: Foundations of Computer Science I
CREDITS: 3.0

PREREQUISITES: Students must either have

- Grade of at least C (2.0) in CSC 130, or
- special permission of instructor.

This course is a required course for Computer Science majors. The choice of topics, and the depth and breadth of coverage, is intended to provide students with the foundations needed to successfully complete courses at the upper division level in the computer science undergraduate program.

INSTRUCTOR INFORMATION: Instructor: Lance Everhart
Office: 153 Petty Email: lmeverh2@uncg.edu
Office hours: Monday and Wednesday 1pm - 3pm. Additional hours are available by appointment.

CATALOG DESCRIPTION: An introduction to the fundamental ideas underlying contemporary computer science with a focus on the computation and construction of objects.

STUDENT LEARNING OUTCOMES: Upon successful completion of this course, a student should be able to:

- recognize the tools and techniques that are necessary to practice the art and science of computing
- select suitable techniques to prove statements
- describe the main ideas covered in each topic
- use knowledge of and solve problems related to discrete structures, logic, and computability
- analyze algorithms

More specifically, a student should be able to:

- construct simple mathematical proofs,
- apply knowledge of set theory, properties of functions, and relations,
- utilize construction techniques for inductively defined sets and recursively defined sets,
- analyze algorithm complexity, including counting techniques.

COURSE DELIVERY: This course will consist of 3 - 50 minute lectures per week. Class lectures will be interactive and students will be expected to participate in class discussions.

GRADING: The student's grade will be determined using the following scale.

Quizzes	35%
2 In-class Written Tests	30%
Cumulative Final Exam	35%

Final letter grades will be distributed as follows:

97 - 100 = A+	93-97 = A	90 - 92 = A-
87 - 89 = B+	83 - 86 = B	80 - 82 = B-
77 - 79 = C+	73 - 76 = C	70 - 72 = C-
67 - 69 = D+	63 - 66 = D	60 - 62 = D-
	0 - 59 = F	

REQUIRED TEXTS/READINGS/REFERENCES:

- Discrete Structures, Logic, and Computability
4th edition (2017)
by James L. Hein
Jones & Bartlett Learning
ISBN-13: 9781284070408

BRING YOUR TEXT TO CLASS EACH DAY.

TOPICAL OUTLINE:

- Proofs and Techniques
- Sets
- Ordered Structures – Tuples, Lists, Strings, Relations
- Graphs and Trees
- Functions and Properties of Functions
- Construction Techniques
- Inductive and Recursive Functions
- Binary Relations
- Inductive Proof
- Algorithm Analysis/Complexity
- Closed Forms
- Permutations and Combinations
- Solving Recurrences

ACADEMIC INTEGRITY: Each student is required to sign the Academic Integrity Policy on all work submitted for the course. Refer to UNCG *Undergraduate Bulletin*. Work turned in for grading should be entirely your own.

- You may not view or copy others work, nor may you share your work with others.
- You may not copy work from external sources and present it as your own.
- Any indication of copied work, either from classmates or other sources, or sharing of work with others, will result in, at a minimum, a zero for the assignment and, in some cases, will be referred to the honors council.

ATTENDANCE POLICY: The university allows for a limited number of excused absences for religious observances --- students who plan to take such an absence should notify the instructor at least two weeks in advance so that accommodations can be made (also see the missed/late work policy below). It is the student's responsibility to obtain notes from another student if they miss class. The instructor will not give private instruction for missed lectures nor will provide lecture notes. The instructor reserves the right to drop any student who misses more than 3 class lectures without valid reasons.

CLASS PREPARATION: It is the student's responsibility to read the material in the text. The instructor will present topics during lectures, but it is not possible to cover all nuances of a particular topic. Some items are intentionally left for the student to read. Chapter exercises should be attempted and used as a study guide/self-evaluation.

QUIZZES: Assessment will be done via regular quizzes. All quizzes will be administered at the beginning of class. Being tardy reduces the amount of time you will have to complete the quiz. No extended time will be given.

EXAMINATIONS: Two mid-term tests will be administered. Make-up tests are not given without prior arrangement. A cumulative final exam is required and will be given during the time specified on the University Registrar's Office Exam Schedule.

MISSED/LATE WORK POLICY:

- Students with planned absences, whether for university events, religious observance, or other reason, are expected to make arrangements, at least two weeks in advance, with the instructor to complete any quizzes/tests before the scheduled date of the quiz or test.
- The final exam must be taken. If the final is missed without prior arrangement, the student will be given a zero for the exam.

ACCREDITATION: As part of our accreditation, samples of student work will be archived. Names are removed before copying.

CANVAS: Canvas is the method used for communication with the class. Make sure you either check it often or that you use the notification features of Canvas so that you are notified as necessary.

EMAIL: Your UNCG email is the method used to make personal contact with you. Personal email accounts are not used. It is your responsibility to check your UNCG email often. When emailing the instructor, or other members of the department, you should treat the email as a formal business communication. Use proper grammar and correct spelling and punctuation. Email received that is not clear due to poor grammar will be considered unimportant and may not be answered. It is a good idea to also always include your student ID number in your communications.

CLASS HANDOUTS: Any handouts used in class will be available through Canvas.

ANNOUNCEMENTS: If the need should arise, any announcements to the class will be made through Canvas, so check it often.

EMERGENCY PREPAREDNESS: Closure of university facilities and classrooms in response to some emergency or inclement weather does not mean that this class is halted. Students should check Canvas for announcements about how the class will proceed in the event of such an event.

ADA STATEMENT: UNCG seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must be registered with The Office of Accessibility Resources and Services (OARS) located in 215 Elliott University Center: (336) 334-5440.

LAPTOPS, CELL PHONES, AND OTHER ELECTRONIC DEVICES: No electronic devices are permitted in this class. All electronic devices should be turned off and put away before class begins. There should be no devices on your desk during class. Persistent violation of this will be considered disruptive behavior and will be dealt with according to university policy. If you feel that an exception should be made for you, please contact the instructor.

DISRUPTIVE BEHAVIOR: Disruptive behavior is unacceptable in any classroom. Please do not engage in non-class-related conversation. You may be asked to leave the room and considered absent; persistent behavior of this type may result in you being dropped from the course (see UNCG's Disruptive Behavior Policy).

Wednesday, August 16, 2017	1.1
Friday, August 18, 2017	Classwork
Monday, August 21, 2017	1.2
Wednesday, August 23, 2017	1.3

Friday, August 25, 2017	1.4
Monday, August 28, 2017	2.1
Wednesday, August 30, 2017	2.2
Friday, September 1, 2017	2.3
Monday, September 4, 2017	Labor Day - NO CLASS
Wednesday, September 6, 2017	2.4
Friday, September 8, 2017	
Monday, September 11, 2017	
Wednesday, September 13, 2017	
Friday, September 15, 2017	
Monday, September 18, 2017	
Wednesday, September 20, 2017	Review
Friday, September 22, 2017	Test 1
Monday, September 25, 2017	
Wednesday, September 27, 2017	
Friday, September 29, 2017	
Monday, October 2, 2017	
Wednesday, October 4, 2017	
Friday, October 6, 2017	
Monday, October 9, 2017	Fall Break - NO CLASS
Wednesday, October 11, 2017	3.1
Friday, October 13, 2017	3.2
Monday, October 16, 2017	Classwork
Wednesday, October 18, 2017	4.1
Friday, October 20, 2017	4.2
Monday, October 23, 2017	4.3
Wednesday, October 25, 2017	4.4

Friday, October 27, 2017	Classwork		
Monday, October 30, 2017	Review		
Wednesday, November 1, 2017	Test 2		
Friday, November 3, 2017	5.1		
Monday, November 6, 2017			
Wednesday, November 8, 2017			
Friday, November 10, 2017	5.2		
Monday, November 13, 2017	5.3		
Wednesday, November 15, 2017	5.5		
Friday, November 17, 2017	Classwork		
Monday, November 20, 2017	5.6		
Wednesday, November 22, 2017	Thanksgiving Break - NO CLASS		
Friday, November 24, 2017	Thanksgiving Break - NO CLASS		
Monday, November 27, 2017	Review		
Wednesday, November 29, 2017	Review		
	TBA	Final Exam (section 1)	Time TBA
	TBA	Final Exam (section 2)	Time TBA