

# CSCI 170 Spring 2018 Syllabus

## Course Logistics

Instructor	Email	Office
Michael Shindler	shindler @usc.edu	SAL 204
Sandra Batista	sbatista @usc.edu	PHE 516
Aleksandra Korolova	korolova @usc.edu	SAL 206

**Textbook:** Discrete Mathematics by Sandy Irani

This textbook is digital; subscription information is available on the course Piazza page.

**Course Website:** [blackboard.usc.edu](https://blackboard.usc.edu)

**Forums:** [piazza.com/usc/spring2018/csci170](https://piazza.com/usc/spring2018/csci170)

Messages that do not need a particular instructors attention should be posted to Piazza with the appropriate privacy setting. Messages sent to the instructor should include the substring “CSCI 170” in the subject line.

## Grade Calculation

Artifact	Weight	Note
Exam 1	15%	Thursday, Feb 15 7:00 PM - 8:50 PM
Exam 2	15%	Thursday, Mar 29 7:00 PM - 8:50 PM
Final	30%	Wednesday, May 9 7:00 PM - 9:00 PM
Problem Sets	40%	See schedule

Letter grades will be assigned at the end of the semester based on the above relative weights, using neither a straight scale nor a straight curve.

## Homework Collaboration (aka: The Kenny Loggins Rule)

You may discuss high-level ideas, and give hints to other students regarding how to solve homework problems. Any time you seek help on, or discuss with someone else, a homework assignment or question that you have yet to solve, do not keep any written record of the discussion. Afterwards, take a 30-minute break and do something unrelated to the course (watching a 30-minute episode of your favorite cartoon show, for example). You may now return to your assignment. For more details, see the full academic honesty guideline.

## Exams

You will be provided with paper on which to take the exam. Both midterms will be held in a common exam room on Wednesdays from 7-8:50pm. Exams will be individual effort, closed-book and closed-notes. You will be allowed two 8.5x11inch handwritten note sheets (front & back) on the exams. *These are not “cheat sheets” – please do not label them as such.*

On exams, you may use a *scientific, accounting, or four-function* calculator. You may not use a graphing calculator or any electronics that can communicate to others on exams *for any reason*.

Students requiring alternate exam arrangements must make such requests within the first two weeks of the term, or as soon as possible after knowing of the conflict or requirement.

## Grading reconsideration

Reconsideration requests for any graded artifact must be made within one week of our release of scores. A form will be available on the course Piazza page for you to use to explain your reconsideration request. You must fill out the form within that week. Once the reconsideration period has passed, grades are considered final.

## Homework Submission and Late Policy

You may submit homework to the online system by 11:59 PM on the due date. If you miss the due time, your homework is late. You are allowed three late days over the course of the semester. Saturday and Sunday **do count** towards late days. If a homework assignment was due Wednesday, and you turn it in Saturday (by the collection time), you will use up all three of your late days. Homework will not be accepted beyond the allowed grace period. Regardless of remaining number of late days, homeworks will never be accepted after solutions have been posted: solution post times will always be announced well in advance.

## Tentative Schedule

You are responsible for the material covered in lecture as well as the corresponding material in the Irani textbook. Please read the material either before lecture or shortly thereafter.

Week	Mon	Topic	Other
1	1/8	Introduction Sets, Functions, Sequences	HW1 out
2	1/15	<b>No Class January 15 or 16</b> Runtime Analysis	
3	1/22	Complexity of Algorithms Foundations of Logic	HW1 in HW 2 Out
4	1/29	Propositional Equivalences, Predicates Quantifiers, Rules of Inference	HW2 In
5	2/5	Introduction to proofs Proof Methods and Strategy	HW3 Out
6	2/12	Induction Strong Induction	HW3 In <b>Exam 1: 2/15</b>
7	2/19	<b>No Class Feb 19 or 20</b> Program Correctness	HW4 Out
8	2/26	Advanced Induction Intro to Graph Theory	HW4 In HW5 Out
9	3/5	More Types of Graphs Fundamental Graph Algorithms	HW5 In
<b>Spring Break</b>			
10	3/19	Trees Applications of Trees	HW6 Out
11	3/26	Basics of Counting, Pigeonhole Principle Advanced Counting	HW6 In <b>Exam 2: 3/29</b>
12	4/2	Discrete Probability Conditional Probability	HW7 Out
13	4/9	Bayes Theorem Expectation and Variance	HW7 In, HW8 out
14	4/16	Divisibility, Modular Arithmetic Primes and Greatest Common Divisors	HW8 In, HW 9 out
15	4/23	Cryptography Number Theory	HW 9 In

Homework due dates are always the associated Tuesday or Thursday with the listed “in” date.

## CSCI 170 Spring 2018: Academic Honesty Guide

It is important to be able to seek out helpful information and collaborate, but it is clearly wrong to pass off work by others as your own. Navigating these two principles can be tricky, as it is possible to enter the danger zone between them unintentionally.

To help guide you, follow this principle:

### The “Kenny Loggins” Rule:

You may discuss high-level ideas, and give hints to other students regarding how to solve homework problems. Any time you seek help on, or discuss with someone else, a homework assignment or question that you have yet to solve, do not keep any written record of the discussion. Afterwards, take a 30-minute break and do something unrelated to the course (watching a 30-minute episode of your favorite cartoon show, for example). You may now return to your assignment.

This Rule is less an ironclad rule as a guideline. It is a guideline to help you determine what is and is not appropriate collaboration and to avoid trouble from the “danger zone.” Flouting the spirit of the Rule while following its letter does not excuse cases of cheating which arise. For example, it is clearly **not** ok to study and memorize your friend’s solution, watch a cartoon for half an hour, and then write out your friend’s answer from memory and submit it. The spirit of the rule includes that what you write and submit for homework must reflect *your* work and *your* understanding of the material at the time of submission. Do not submit homework that does not reflect *your* understanding of the material, no matter its origin.

**You** are responsible for understanding what is allowed, and what is not. It is possible to violate these guidelines without being malicious, and we still are required to report this to Student Judicial Affairs and Community Standards.

We have very observant graders who tend to notice inappropriate collaboration and plagiarism. Follow the above guidelines to make sure you never fall afoul of this.

### You should never:

- Show your homework assignment to someone else.
- Write your homework solutions from notes taken outside of lecture or discussion. This includes from tutors.
- Seek homework solutions from sources outside to this class – this includes the general internet.
- Search online (beyond Piazza) for *any* questions you have about a homework until *after* you have asked on Piazza and also asked course staff in person.
- Tell a student specifically how to solve part of a homework problem.
- Submit a homework that includes anything you do not understand or could not explain to the instructor.

If someone copies your work, both of you are culpable! **Remember: friends that pressure you for unreasonable help are not really friends.** There are plenty of course staff and instructors who are here to help!

Now you know, and knowing is half the battle!

## CSCI 170 Academic Success Guide

1. Go to lecture – and participate!

*There are some students who can skip a lecture and still do well. They are a small subset of the students who do skip lecture though. You will get the most out of lecture if you are well rested, nourished, have at least looked through the reading, and ask questions.*

2. Go to discussion!

*Your TAs will present the material in such a way to reinforce the knowledge for you. Their presentation is likely to differ from how your lecturer presents it; this is a good thing. Furthermore, ending your school week by reviewing the material will help you long-term.*

3. Do your homework

*I mean two things by this point. First, do your homework as in “do not skip doing your homework and turn in nothing.” Homework is worth 40% of your grade. Each assignment is worth over 4%. Every semester, there are students who miss passing CSCI 170 by less than that margin who neglected at least one homework. Do not be one of those students this semester!*

*Second, do your homework as in “take the time necessary to do well on it.” You will need to devote a significant amount of time to do well on the assignments.*

4. When homework solutions are posted, review them: twice!

*Homework solutions are typically posted three days after the homework was due (with the exceptions of homework 3 and 6, which are sooner). Review once while what you did is fresh in your mind and once when you get the graded artifact back. Be sure you know why you missed the points you did; that feedback will be valuable to you in learning the material and preparing for exams.*

5. Do practice problems!

*At the bottom of each homework is a list of suggested practice problems. If you have time, do some of them before starting on your homework. Either way, be sure to do them as you prepare for exams. In a class like this, repetition is a great aid for learning.*

6. Plan your semester.

*There are twelve dates you will need this semester for CSCI 170. They are listed on the syllabus. Put them on your calendar and do this for your other courses too. If you see that a homework is due near when you have a deadline in another class, plan to start that homework even earlier.*

*For those of you taking CSCI 104L concurrently, this goes double. If you allot an appropriate amount of time to work on your assignments for each class, your semester will be far more successful.*

*Do not let poor planning on your part to cause you to miss a lecture, lab, or discussion for your classes.*

7. Understand this is not a middle school math class.

*Most of the time, we are not looking for a number as an answer and showing your work isn't just for partial credit. Homework and exams aren't limited to repeating exercises from lecture or homework with different numbers either. We will be expecting you to explore ideas using class as a starting point. Many times you will be expected to write a proof or reason about something related to what we have discussed.*

8. If you find yourself falling behind, let someone know.

*The instructor, TAs, and course producers are around and able to help you get caught up if needed.*

9. If you need a particular grade, the time to act upon this is now, not after the final.

*Every semester, I get requests based on students' need to have a particular grade reported. The only factor in your grade is demonstrated knowledge in the class, and the only reconsideration requests granted are based on marking error. There is plenty of opportunity for help, practice, and credit during the semester.*

*On a related note, there are no opportunities for extra credit. Make the most of your regular credit.*

10. Do not use a phone or computer in lecture.

*Students who avoid these in class tend to do better. See <https://www.nytimes.com/2017/11/22/business/laptops-not-during-lecture-or-meeting.html> for a discussion of this. Use hand written notes and don't be distracted.*