

CS 61A Fall 2014: Guide to Studying for the Final

Here is a set of thoughts that I've seen students have around this time of the semester. They are the thoughts I had when I was taking the course. **I think the most important takeaway is that you are *not* alone! Many of us struggled through 61A just like you are right now. You will persevere too. :)**

Common Misconceptions

I need to study all the time during RRR/final week in order to do as well as possible in my classes.

If I understand the material, I don't need to specifically focus on preparing for a 3 hour final.

If I fail 61a this semester, it will be the end of my chances at Computer Science

Specific Questions

What's going to be on the final?

How should I prepare?

Help! I'm going to fail!

I want to do better/I'm not satisfied with my progress.

I'm doing quite well in this class, what now?

Is [X] a good use of my time?

I think there's a typo in this past exam...

Why isn't my Piazza post being answered?

I get stuck all the time. Do you have any advice on that?

I feel like I don't manage my time well. What are some short term hacks I can do to help overcome this?

I feel...

Stressed

Frustrated

Overwhelmed

Hopeless/Like I'm a failure

Last Words

Common Misconceptions

I need to study all the time during RRR/final week in order to do as well as possible in my classes.

Common thought patterns include *“I feel bad/guilty any time I’m spend time doing anything besides studying, whether it’s having fun, taking a break, or even eating and sleeping. I am here to study. Nothing else should get in the way of that.”*

This is a bad way to think about studying. **The most important thing** in order to maximize your success is to make sure that you don’t burn out. **The easiest way to burn yourself out** is to think that you need to spend every moment studying.

Never feel bad about taking a break. You’re not slacking off if you’re resting up. Even if you do end up having fun when you should be studying, *you don’t have to feel bad about it.* **Enjoy the fact that you got to relax, and don’t fret about the lost time. There’s more to life than just school, and I promise that it’s okay to “waste” a little time on that stuff.**

If I understand the material, I don’t need to specifically focus on preparing for a 3 hour final.

Nope. Nope nope nope. You get better at running by running a bunch. You get better at swimming by swimming a bunch. **You get better at taking finals by taking past finals.*** There is a performance component to taking a final and doing well. This means that you should explicitly practice that, even if you understand the material.

* In fact, I argue that once you understand the material, that’s where the real work comes in. There’s two parts to doing well on the final. You first have to understand the material (studying discussions/lectures/labs/etc.). Next, you have to ensure that in those 3 hours, you can demonstrate what you’ve learned over the entire semester by applying it to the problems we give you (spamming past finals). Some might think this obvious, but do you study in these two stages? See [“How should I prepare?”](#) for more info.

If I fail 61a this semester, it will be the end of my chances at Computer Science

Some of my friends and students who tried taking 61A their first time went and failed. Others of them failed 61B, or 61C. Each of them then got back up, dusted themselves off, and proceeded to keep trying. They end up working at Google, or working at Apple, and/or getting into grad school, etc. **Persistence is key.** If you want advice about your specific situation, feel free to shoot your TA an email.

Specific Questions

What's going to be on the final?

The final will cover material you've seen throughout the entire semester. Expect emphasis on the topics you saw on homework. (Did you see any homework on distributed computing or NLP?)

How should I prepare?

Remember, you are being tested on your ability to solve problems, not how well you understand the concepts or how hard you studied. Often students will come to me saying "I understand things conceptually, but I don't know how to approach the problems on the exam". This is a misunderstanding. I argue that **you don't really understand things conceptually *until* you can solve problems *and* you need to solve problems in order to get better at solving problems. So what I'm really saying, is SOLVE PROBLEMS.**

There are two key stages to studying for any technical course: reviewing the material; then spamming exam questions.

Reviewing: This involves making sure you understand how to solve the basic questions involving each topic. Go through the old discussions and labs and solve problems. **Only read the book or view lecture if you have no idea about a topic or you need a brief refresher. If you do read, only focus on getting enough information you need to solve whatever particular problem you're stuck on.** For the most part, the discussion packets are an excellent use of your time, as the explanation sections in the discussions are often good enough for you to start solving problems with. Start with the topics that scare you the most (Scheme, SQL, Iterators/Generators, etc.)

Spamming: After you feel like you've spend a decent amount of time on reviewing, start solving past exam questions in the same manner. At some point, you'll have to start tackling the problems in exam conditions. So quiet place, 3 hours non-stop, no peeking at the solutions. Make sure to save some exams for that.

Don't be stuck on a problem for more than half an hour. ([How?](#))

Help! I'm going to fail!

First, are you actually going to fail? As in, do you have a strong chance of getting lower than a C-? If that is the case, none of the advice I give here is of direct relevance. **Shoot your TA an email, and perhaps the two of you can talk about it.** Otherwise, if fail means “not do as well as I want”, see immediately below.

I want to do better/I'm not satisfied with my progress.

If you're not happy with how you're doing, it is likely that you should read the entirety of the rest of this document. Pay special attention to the later half (“What to do when I get stuck?”, “How to manage your time”, “I feel frustrated, what do I do?”)

I'm doing quite well in this class, what now?

Take breaks, enjoy life, study for other classes, and help answer Piazza posts.
Also, lab assist for next semester! :D

Is [X] a good use of my time?

Well that depends on who you are, how you work, and what [X] is. So instead, I'll list things that are likely a bad use of your time:

- **Reading over the *entire* textbook** - this is a form of procrastination.
- **Binge watching lectures (e.g. watching 5 lectures in a row)** - if you could effectively absorb information in this way, then John would just lecture for 20 hours straight and then you'd take a final. Of course, it doesn't work like that. These things take time to digest. Space out how many topics/classes you study at any one time.
- **Spending more than an hour on any single question** - find something else to do if you've been staring at any problem for that long. Promise it won't run away while you're gone. Also see the [“What to do when stuck advice”](#) below.

I think there's a typo in this past exam...

The fastest way to verify is to ask via a Piazza. Be sure to link to the exam pdf and solutions, and to mention which question exactly has a typo in it.

Why isn't my Piazza post being answered?

If your question is “explain this to me”, it is unlikely that the TAs will want to answer it.

Have you first...

- thought for more than 5 minutes on the problem?
- searched the Piazza for other people with the same question?
- looked over the relevant discussion or lab?
- written down what you understand and what you don't understand about the problem? (“I'm stuck, help” vs “here's what I'm stuck on. what do I do next?”)
- included the question and link in your post?

I get stuck all the time. Do you have any advice on that?

There are two general ways that you can get stuck. You might get stuck writing the Python code versus getting stuck coming up with the idea. The former comes with reviewing material, so see [the advice above](#). The latter comes with experience solving problems. See below.

Getting experience practice solving problems:

The obvious advice is to start solving problems you *can* solve, and then work your way through harder problems. The Guerrilla worksheets are *very* good at ramping up in difficulty, so you might want to start with those.

Often, it's frustrating because you don't have a good model on how to approach solving problems. We have fixed this--Youri has video walkthroughs for Midterms 1 and 2. Look over your midterm, try to solve a problem from it, and then watch the relevant video.

Check Piazza for links to these things.

Remember that everyone gets stuck. The trick is to figure out how to get unstuck.

In fact, you learn the most through the process of getting unstuck.

[Here's a set of practical tips](#) that serve as healthy reminders of what to do in order to get unstuck.

Sometimes, you have to peek at the solutions. When you do, figure out the following:

1. Why is this solution correct?
2. What did I get stuck on? What did I miss?
3. What is the key idea here that will be helpful in future problems?

Remember, you shouldn't have to spend more than 30 minutes on any one problem. If you get stuck longer than that, look at the solution, or ask someone, "I'm stuck here, what is my next step?" (Post on Piazza!), and then move on to the next problem.

I feel like I don't manage my time well. What are some short term hacks I can do to help overcome this?

Here's what I do. Write down everything you need to do on one list. When I say everything, I include things like "eat lunch today". You can further sort the list into a 2D table:

Important and Due Soon	Important and Not Due Soon
Not Important and Due Soon	Not Important and Not Due Soon

From there, you can start executing the tasks on the top left cell (Important/Due Soon) and then move on to the right (Important/Not Due Soon). Ignore the bottom right altogether (Not Important/Not Due Soon), and pick and choose on the bottom left (Not Important and Due Soon).

Slacking off is economics. Raise barriers to entry for things that are unproductive (get a blocker for Facebook, get out of your dorm and into a library, etc) Lower barriers to entry to studying (have all your study material in an accessible place, make sure you've eaten and slept adequately so that you feel less lazy, etc.)

In particular, here are some things that are always Important and Due Soon:

- Eating
- Sleeping
- Showering

I don't care how behind you are. If you're not doing those 3 things, you're not doing your job. There is a very high inverse correlation between how lazy/sloth-like I am, and how well I'm taking care of myself. See [Common Misconceptions](#) for more on this.

Fear is also a big thing. You're probably afraid of failing, because this means so much to you. That's normal and fine. Everyone feels like that. Simply acknowledge that you may fail, take a deep breath, and get started anyways.

I feel...

Stressed

Yes. Welcome to Berkeley. Stress is only bad if you keep focusing on it. **Take a deep breath. Repeat 3 times, slowly.** Read the rest of this guide and act on what you can.

If you feel stressed all the time, and/or if you feel like you can't handle it, shoot your TA an email.

Frustrated

If you are sick and tired of not getting it, and want to throw your laptop across the room, learn to catch yourself, breathe, and choose to keep working instead. This will take time and patience to develop, because you're fighting a habit, and habits are hard to change.

The key is that over time, you get better at it little by little until it becomes natural. This means you need to try and catch yourself *each and every* time you feel frustrated. For each incident, whether you succeed or fail does not matter, only that you follow the quest.

If you find yourself thinking, "Why am I the stupidest person in the room? Why does everyone else get it? What am I missing?", remember where you are, and how hard this class is. You're at UC Berkeley. This university is tied for first in Computer Science, and our intro class is arguably one of the most challenging in the world. This is not going to be a walk in the park. Most importantly...

Don't expect things to come right away. Don't define yourself as needing to be intelligent or as the person who always gets perfect grades. Find something more interesting to define yourself as.

Overwhelmed

Very rarely is the situation as bad as you think it currently is.

Are you emotionally overwhelmed? Take a break and see my advice on [Stress](#) above.

Are you overwhelmed schedule wise? See the above advice on [Time Management](#).

If you are or your friends are about to hurt yourself or others, **please** [seek help](#).

Hopeless/Like I'm a failure

You don't feel like this in a vacuum. Usually people feel bad about themselves or their situation because of specific thoughts and events. Thus, I don't have any general advice here. Having gone through a lot of this myself, I'm always here to listen, so feel free to email me.

Last Words

Be brave, because this stuff requires bravery. Now go get started.

(Insert [Inspirational speech on getting started.](#))