

Coaching Guidelines

This document will be given to both students and Coaches, so that everyone's on the same page with expectations.

The “Rules”

The only “rules” are:

- Students will get an assigned Coach at the beginning of the semester, and will schedule a weekly recurring 30-minute slot. Coaches will set a hard stop 30 minutes after the scheduled start of the session (to manage back-to-back 1-on-1s).
- The Coach will be available during that slot every¹ week except midterm weeks. They will try their best to help you develop your problem-solving ability for that 30-minute slot, however you choose to use that time.
- If there are issues with students regularly showing up late and/or missing slots *without* notice, the instructors will intervene and cancel that 1-on-1 (and you won't be able to attend more sessions for the rest of the semester). We hope that won't be necessary.
- Absolutely nothing that happens during your Coaching session will directly impact your grade. Impressing your Coach does not count as participation (but if you're impressing your Coach, that probably means you'll do well on the exam!), and having a rough week will not risk losing credits (provided you pass the [Marshawn Lynch Test](#)). Any notes they take will be shared with instructors only for the purpose of helping to make a plan for your development, and cannot impact your participation or letter grade in any way.
- The Coach's 'job' is to work with you as efficiently as possible in the thirty-minute session – the goal is to get thirty minutes of training in and to leave with a plan to be efficient with your self-training during the week. The Coach may not necessarily live-grade your entire PSet, or answer all your questions, but they will still hard stop the session after 30 minutes. If you have remaining questions, you can bring them to office hours or ask on Ed.

Strong Suggestions: Big Picture

Treat the PSets as if they are being graded. In particular, write out your solutions as if you were submitting them for a grade. This is the only way to get feedback on whether you're actually solving the problems, and whether you're prepared to write a complete solution on an exam.

¹Within reason – each Coach may have a week they need to miss, or get sick, and they will let you know in advance if they need to cancel. If that happens, we may find a Coach to cover, or may cancel that week.

Make sure you're effectively training on your own. Problem-solving skills take time and engagement to learn! 30 minutes/week is *plenty of time to figure out how to effectively spend your remaining* $\gg$ 30 minutes/week, but *nowhere near enough time to develop as a problem-solver*. The primary goal of the coaching sessions is to guide your training – it cannot be the totality of your training.

Strong Suggestions: Format

Ultimately, the Coach's 'job' is to figure out as best they can what each student needs to improve their problem-solving ability within the dedicated Coaching slot. For the first few weeks, we strongly suggest that both the student and Coach follow the outline below. After you get comfortable, you may certainly find another format better, and are certainly free to try it.

Suggested Weekly Format. (Below, 'You' = 'the student').

- **Before the Coaching Session.** Imagine the PSet is due Monday. We will try to schedule Coaching sessions on Tuesday/Wednesday. You should attempt the PSet exactly how you would in any other class: take a stab at each problem alone first and see where you get stuck. Once stuck, choose between {grind it out, work with friends, go to office hours, ask AI} based on what works best for you. **When you're "done," write up your solution as if you would submit it for a grade.**²
- **First five minutes of First Meeting.** Spend the first few minutes overviewing your background. Have you done proof-based math outside of COS 240? Did you enjoy COS 240? Were you happy with your grade in COS 240? What are you hoping to get out of the class? (Be honest! The Coach is there to help you do the best you can given the effort you plan to put in, and to be realistic with you about possible outcomes. But they aren't there to judge.) Your Coach will write this down.
- **First five minutes of Later Meetings.** Spend the first few minutes checking in about the past week. Were you happy with how you engaged with the PSet? If not, why not? Do you feel like you have the resources to learn/grow during the week? If not, what's missing? (Again, be honest! The Coach is there to help you do the best you can given the effort you plan to put in, and to be realistic with you about possible outcomes. But they aren't there to judge.) Your Coach will write this down.
- **During the Coaching Session.** Take your written PSet to your Coach, and ask them to live-grade the problem you're least certain about. Ask them to share their thoughts while reading so you can have a sense what's going on in a grader's mind. Ask them to be honest, but kind, with feedback. Your Coach will ask you questions about the thought process behind your solution, especially in places where something seems not quite right, or in any place you got stuck.
- **Save at least five minutes at the end** to do a brief self-assessment (i.e. what's going well, what aspects do you want to focus on improving), and make a 'plan' (i.e. what do you want to do differently with this week's PSet?). Your Coach will write this down.

If, during some week, you aren't able to meaningfully engage with the PSet before your Coaching session, consider doing one of the following:

²Without doing this, there's no meaningful way for the Coach to give you any estimate of how you're doing.

- Email your Coach to just skip this week. It's not clear the session will be productive if you haven't worked the past week.³
- Think hard about what you could get out of a session this week anyway. Do you have any lingering questions from past weeks? Do you want to talk through a better plan for next week?
- Ultimately, though, the Coach is there for you for 30 minutes. They're paid to be there, and will try their best to make the most of it if you choose to go, as per The Rules.

Some Special Cases

Below are a few (non-exhaustive) list of special cases. If you have concerns about the format of your Coaching, under the umbrella of "we are really just trying to help you learn the best we can with 30 minutes of staff time per week," you can reach out to an instructor to discuss.

I'm *really* concerned about my background, because I didn't do well in COS 240, didn't like it, and it was two years ago. I froze even on PSet 0. That's OK (if it helps, you're not nearly the first student to be taking COS 330 in this situation). Just go to your Coach and tell them this, and they'll work with you. All Coaches are equipped to work with you, but we'll also make an attempt to match you to one who's especially well-equipped. You should certainly be realistic about what outcomes might be possible, but you also may be pleasantly surprised with how much you can learn with the structure of a 1-on-1 Coach.

I have significant experience in proof-based math, and I'm fortunate to feel confident about the hard problems on the PSets already. Great! We definitely don't want to drag you to a 1-on-1 meeting you find unproductive. Here are three options: (a) most PSets (starting with PSet 1) will have an *extremely* challenging Problem 3. Try that instead and talk to your Coach about it. All Coaches are equipped to work with you on this, but we'll also make an attempt to match you to one who's especially well-equipped. (b) talk to your coach about theory beyond the course. Ask them about their research. Talk about things you are interested in. (c) If you really are in great shape for the exams and aren't getting anything out of Coaching (but were hoping for a lighter experience than being stuck for a dozen hours on Problem 3s), don't worry about Coaching credits and just take the exams (if that sounds scary, then talk to your Coach about why, and your Coach will help you find skill-building opportunities).

I have a personality mismatch with my Coach. Email the instructors and we'll figure it out.

³While I don't encourage letting credits wag the Coaching, if you choose to do so anyway, you might also keep in mind that a single credit doesn't increase your final grade by much.