

Teaching focused careers in mathematics

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Outline

In this talk we will discuss two main ideas:

- What a teaching focused career in math is like (I'll focus on my own experience)
- Then we will talk about some suggestions for applying to such positions.

About Cal Poly

Cal Poly is a part of the California State University system (20+ campuses)

- These schools generally do not have PhD programs, though many have master's degree programs (for example our math department has one).
- About 22,000 students, of which about 20,000 are undergraduates.
- We happen to be a strong school in engineering, architecture, aero, and others. We end up with a mathematically strong incoming students.

Cal Poly vs other teaching focused schools

My experience at Cal Poly is likely *very* different than the experience of a professor at a small liberal arts college, for example.

Even among the Cal States I expect life varies dramatically from one math department to another.

Also Cal Poly is located in a very nice town, San Luis Obispo, which naturally gives me some biases.

What my position is like

The heavy load

- My teaching load is 12 units per quarter (=12 classroom hours teaching per week).
- We must have four office hours each week as well.
- In addition, as with all academic positions, there is committee work (service) and expectations of some research (professional growth).

What my position is like

The plus side

- There *is* still time for some research.
- Research is still expected and necessary for tenure, but expectations for how much research is dramatically less by comparison with a research focused university.
- In my case this has allowed me to broaden my research interests since graduate school. This may not be possible in a “publish or perish” environment.

What my position is like

The plus side

- Undergraduate research is greatly appreciated by my department and college.
- If you have any interest in leading undergraduate research projects you may find a lot of support for it.
- These can be fun and rewarding.

What my position is like

The plus side

- If you love teaching you will find many like-minded faculty in a teaching focused school.
- You will have people with whom to discuss, at length, various and elaborate opinions on good pedagogy.
- And you will find support for trying new teaching practices (e.g. workshops on campus or funds for traveling to conferences with teaching focused sessions).

What my position is like

Further considerations

- Early career time off for research.
- Travel and travel funds.
- Academic life is nice!

Applying for teaching focused jobs

Experience matters

- Experience as the sole instructor in a classroom is invaluable.
- It will help you to decide if you enjoy teaching.
- When applying, prospective schools will want to know that you have some idea of what you are getting into.

Applying for teaching focused jobs

Application materials

- Cover letter: make it non-generic! (Why do you want *this* position?)
- CV: move teaching related activities to the front. Make sure to clearly indicate your role in any classes taught.
- Research statement: An introduction readable by a general math audience helps. (“Can this applicant describe their research to a non-expert??”).
- Research statement: Do you have experience or interest in undergraduate research? List some ideas or past projects.

Applying for teaching focused jobs

Application materials continued

- Teaching statement: This is important! Don't make it just a short paragraph. Make it honest and *thoughtful*.
- Teaching statement: Avoid strong language (“it is well known that the best teaching technique is ...”).
- Teaching statement: The reader should come away with the idea that you *care* a lot about teaching.
- Letters of recommendation: Ideally your teaching letter(s) will be from someone who has reviewed your teaching in some capacity.

The interview

What to expect when visiting on campus

As part of an on campus interview, many teaching focused schools will require a teaching demonstration.

- Take this seriously!
- Spend a good deal of time preparing it. Choose good examples.
- Think about the types of questions you might get (even if you are giving it to a panel of professors, they may try and give you the tough questions students sometimes ask).

The interview

What to expect when visiting on campus

- You may be asked to actually teach a class to students.
- Whether or not your interview has a teaching demonstration required, often faculty will look to your research talk to get clues on your teaching abilities.

After you get the job

- It will be important to set aside time for research.
- It is OK to shut your office door!
- Don't get too excited about volunteering for committee work. It can be a time sink and there will be plenty of time for that later in your career.

In conclusion

Take time to decide if a teaching focused career is a path you might be interested in.

If it is and you choose to apply to teaching focused positions, make sure your application reflects the fact that you've spent a good deal of time as an instructor (so you know what you are getting into) and that you spend a good deal of time thinking deeply about teaching and your teaching philosophy.

The end.