

Navigating the Tenure-Track Job Search

Leanne Merrill

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Types of Jobs

- Postdoctoral Scholar/Fellow at a large school (sometimes named)
- Visiting Assistant Professor at a small school (also sometimes named)
- Tenure-Track Assistant Professor
- Other: instructors, lecturers, preceptors, professor of the practice, community colleges, European titles....

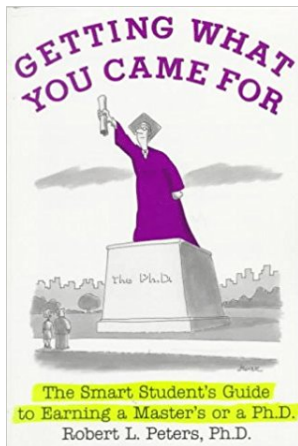
Documents

- Letters of Recommendation
- Curriculum Vitae (CV): list of scholarship, teaching, service activities
- Cover Letter: statement of interest/compatibility for a particular job
- Research Statement: What are the main results in your research and how does it connect to other areas of mathematics?
- Statement of Teaching Philosophy: explanation of teaching experiences and goals
- Others: Reference List, Publication List, Transcripts, Teaching Evaluations, Sample Writing

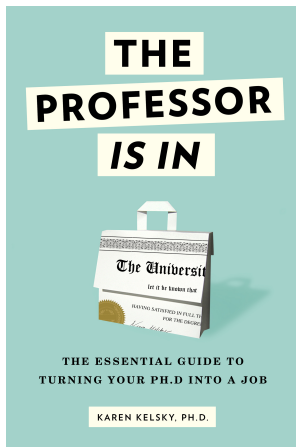
Where do you find job listings?

- MathJobs.org: almost all research jobs, many teaching jobs. Some schools use this for applications, some are just an ad with instructions for an application.
- Employment Information in the Mathematics Sciences (eims.ams.org): very few research jobs, some (surprisingly good) teaching jobs. Contains instructions on how to apply.
- HigherEdJobs.com: no research jobs, some four-year teaching jobs, many community college jobs. Contains instructions on how to apply.
- ChronicleVitae.com. No research jobs, some teaching jobs. A small but growing source. Built-in document management.
- Listserves in your field and/or connections. Much more important for research jobs.

Getting What You Came For by Robert Peters



The Professor is In by Karen Kelsky



Letters of Recommendation

- You need four. One will be from your advisor and one will be from Mike. You should try to get one from outside UO but it is not strictly necessary.
- Send your recommenders your documents so they can read them. Invite UO professors to observe your classes.
- Cultivate references at conferences and through collaborations.
- Give them lots of time to write (three weeks is the bare minimum).
- Jessica will send letters if you ask her to.

CV

Should contain (not necessarily in this order):

- Contact information
- Educational information and relevant jobs
- Awards
- Publications
- Talks/Conferences
- Teaching Experience
- Service
- References

It's a good idea to have CVs of different lengths (2 versus 4 pages) ready to go. Don't put a picture of yourself on your CV.

Cover Letter Basics

At the very least your cover letter should have three paragraphs:

- Paragraph 1: “I’m a grad student at UO working with blah and I am applying for job blah”
- Paragraph 2: Briefly summarize teaching and research themes to be addressed in their respective statements. Mention awards if relevant.
- Paragraph 3: Contact information and presence at conferences (particularly JMM)

You also need to write in traditional business letter format and include actual postal addresses even though you will not actually mail them.

Cover Letter Customization

If you are applying for teaching jobs, you need to customize. I did this in several ways:

- Separate additional paragraphs for different types of schools. Mine were public medium/large, public small, private medium/large, private small.
- Mention school-specific facts: special programs, people in your research area, mission-statement related items, etc.
- If geography plays any role, mention it, especially for small schools.

Most importantly, **READ THE JOB AD** and do what it says. If you don't, they will not bother looking at the rest of your application.

Research Statement Goals

This document is difficult to write because you have a bunch of competing goals at work.

- Goal 1: Communicate what you have accomplished (or at the very least the fact that you have accomplished something).
- Goal 2: Show that you can write about mathematics in a way that is accessible to a non-expert in your field.
- Goal 3: Show you have an active research agenda going forward.
- Goal 4: Don't be an asshole about how great you/your field are.

Research Statement Structure

Two ways you could structure this:

- Write two research statements, one for experts and one for non-experts.
- Write one research statement with two parts: the first for non-experts, and the second for experts. This is what I did, and I think I was successful, but it took a lot of work to get the margin between expert and non-expert to flow well.

Your research statement can be as long as you'd like, but keep in mind that an individual will read a maximum of two standard pages before giving up (and likely will read less). 4-6 pages is a good goal. You should have a bibliography.

Teaching Statement Goals

This is the hardest document to write. Its goals include:

- Show that you have actually taught a class and have some idea how to do so.
- Show that you have thought somewhat carefully about teaching.
- Show that you like students and respect them.
- Show that you like teaching and want to keep doing it.
- Don't be self-aggrandizing.
- Don't be self-deprecating.

Teaching Statement Tips

- The document may be called “statement of teaching philosophy” but you should NOT be philosophical or aspirational.
- Avoid generalities. Use actual examples from your teaching to back up claims. Do not make a pat, meaningless statement unless you can actually show that you believe it.

A reality check: your five-ish years of teaching one class per term are a drop in the bucket compared to the combined teaching experience of the people reading your statement. You will not be able to say anything revelatory. Your goal is to show them you are competent and reasonable.

Teaching Statement Tips, Continued

- Don't come off as weepy or soft. Avoid emotionally-loaded language.
- Use active verbs. Avoid words like, "want," "believe," etc.
- Don't say how you feel. About anything, ever. Simply say what you did and it will be clear.
- Never say anything that undermines your own authority.

These are especially hard to avoid if you are anyone other than a white male, but you can do it (with help from friends, professors, editors).

What NOT To Do

Math has always been difficult for me. I don't just mean graduate school, or even during my bachelor's degree; I have worked really hard since elementary school to understand this stuff. In fifth grade, I argued passionately that .19 was larger than .2, because clearly 19 is larger than 2! I didn't understand what a function was for about a year of precalculus, during which time I was furious that my teacher kept writing $f(x)$ and then not multiplying f times x ! I believe that my personal struggles, failures, and victories have shaped my teaching philosophy and practices, which have already proven to be effective in the five years I've spent as the sole instructor of about twenty college courses (eight of which were distinct). My approach humanizes mathematics and gives each of my students an authentic mathematical problem-solving experience.

What NOT To Do, Continued

Mathematics happens in the context of human relationships, whether they are between teacher and student, author and reader, or collaborators. The conveyance and creation of mathematical material therefore depends heavily on the quality of communication between the people involved. Open, honest, and respectful communication has as its foundation a respectful, empathetic relationship, and as a teacher my first task is to build one with each of my students. Their first homework assignment is to write a mathematical biography. They describe a time they've succeeded in mathematics, and they identify difficulties they've had. They tell me how their family and friends feel about math, and they talk about mathematics in their daily lives. Through this exercise, I position myself as an ally, not an antagonist. I develop empathy that guides my decisions in the class, and students are prompted to

Redeeming Myself

Calculation precedes theory and examples precede definitions, both in mathematical research and successful mathematics teaching. Students learn not just by watching mathematics, but also by practicing it. In order to understand concepts, they must get their hands dirty with specific exercises. My goal as a teacher is to pick the most instructive exercises that provide a path to this understanding. Along the way, students require challenging problems from me to develop problem-solving skills, but they also need my support when they are struggling.

Redeeming Myself

As an example of balancing teacher-led and student-focused work in differential calculus, I spend a day showing how to calculate the derivative of a function from the definition. In the next class, I give my students a worksheet for calculating the derivative of x^n for $n = 0, 1, 2, 3$, and 4, and then ask if they can posit a formula for the general power rule. This accomplishes two things: first, students get practice using the limit definition of the derivative, and second, they more intuitively believe the power rule, rather than regarding it as another math fact to memorize with no justification. They also have a chance to work in groups, where they ask the inevitable algebra questions and do not feel as embarrassed.

Other Teaching Statement Components

The “statement” part of your teaching statement should not go over a page, no matter what the requirements say. They are reading several hundred of these. Do them a favor.

If you have more room, you could include other components. Mine were:

- Proposed senior project/undergraduate research ideas
- Statement on diversity/equity

This is a place where you can get creative and customize, so long as you actually have something to say. Don't write more than you need.

Their timeline

This is general summary. There will be dates that don't fall in these windows.

- NSF-MSPRF due: mid-October
- Tenure-track applications due: November 1 - January 1 (many are 11/15 or 12/1)
- Visiting positive applications due: December 1 - February 1
- Phone/skype interviews: December 15- February 1
- JMM interviews: Early January at JMM
- On-campus interviews: January 15 - March 15
- Offers made: February 1 - April 1

It's customary to be given a week to make a decision, and they will typically extend it to two if you ask them. You can and should negotiate for more offers or a better package.

Your timeline

This is what I did (or at least attempted to do):

- Year prior to graduating: actually prove something so you can write a research statement. Start CV if you don't have one already (you should have one already).
- Summer prior to graduating: draft teaching statement and research statement. Update CV. Contact references.
- September: Teaching and research statement mostly ready to go. Send around for edits. Start your spreadsheet.
- October: Finish statements. Write basic cover letters.
- November: Applications.
- December: Applications and interviews.
- January: Applications and interviews (you will probably do some traveling)
- February/March: interviews (more traveling).

Types of Interviews

Typically schools will conduct at least two interviews:

- Phone/Skype OR JMM interviews: these are anywhere from 10 minutes (horrible) to 45 minutes (also horrible). There can be one or many people interviewing you, with an average of 2-3.
- On-campus interviews. These are a full day, 8am to 8pm. You will meet most of the faculty, many students, and some administrators. You will probably teach and/or give a talk. You will be taken out for meals and given tours of the department, campus, and maybe even the town.

Numbers: schools ask maybe 20-60 people for phone/Skype/JMM interviews, and 2-4 people for on-campus interviews. Applicant pools are anywhere from 200-600 people for each job.

Interview Questions

Here are some questions that came up many times:

- Why are you a good fit for our school?/Why do you want to work at our school particularly?
- What is a successful teaching experience you've had? Why was it successful?
- What is a difficult teaching experience you've had? What did you learn from it?
- Many of our students are first-generation/minority. What experience and techniques do you have for working with these students?
- Our faculty teach four classes per term, have advising and other service duties, and are expected to keep up with scholarship. How do you plan to balance all of these activities?

Interview Questions, Continued

- How do you see yourself contributing on each of the following fronts: teaching, research, service? What percentage of your time will you devote to each?
- What techniques do you have for dealing with different student ability levels in the same classroom?
- What plans do you have for undergraduate research/independent study projects?
- What is the role of mathematics in the context of a liberal arts education?
- What questions do you have for us?

Interview Tips

- Do not expect to wing it. You will have a lot of adrenaline in your body and you will need solid preparation to combat it. Practice both specific answers and delivering them effectively. Record yourself and watch it (painful but necessary).
- Keep your messages consistent with those in your documents.
- Do reasonable things like dress well, make eye contact, shake hands firmly, address people by name, be pleasant/friendly.
- Don't fidget. Don't use "up-talk."
- Breathe before you speak.
- Avoid aspirational language. Say what you have done.
- Flatter them a little bit but not too much. You can do this subtly if you prepare.
- Send a thank-you email.

Questions for them

The questions you choose to ask the interviews can make a huge difference in their perception of you. It's typically the last part of the interview so you want to end on a high note and communicate your desire to be their colleague. Examples:

- What sorts of professional development do you have for teaching/research?
- What do your majors do after they graduate?
- How are students involved in faculty research?
- What is your math club/AWM like? How are faculty involved?
- What kind of opportunities for interdisciplinary teaching are there on campus?
- Do you support Project NeXT fellows?

On-campus interviews

Some thoughts:

- These are grueling. Dress comfortably but professionally. Bring a water bottle and snacks because you will not actually eat at mealtimes. Sleep as much as you can leading up to it.
- Administrators (provost/deans) are actually the people who decide to hire you (less true for research jobs). You must impress them.
- Crazy shit can and will happen. You must keep your composure.
- The faculty and students will almost surely not understand your research and you should not attempt to make them understand.

Overarching Advice

Be gracious but not pandering. Be confident but not vain. You must see yourself as a professor, not a graduate student. You are interviewing to become their colleague and you must act collegially. Be the kind of person that you want to work with.