

Do You Want to Teach Large Classes or Small Classes? Do You Have the Skills to Coordinate Large Teaching Teams?

While many people would instantly say small classes are best, I have found large and small class teaching equally satisfying and each has its own benefits. I have found that the pedagogical and course design skills required are both quite similar for large and small class teaching. It is the less discussed skills—administrative skills to teach huge classes and the emotional support skills in small classes—that really distinguish these two experiences.

While beginning teaching assignments are usually clear, you should also ask about future opportunities and expectations. At some institutions, you will be hired to teach or coordinate a single course for the foreseeable future, or you will be asked to teach only introductory courses. At others you might teach one section of six different courses, with little continuity from year to year.

What Support Will You Need for Professional Activities?

You should consider the costs of maintaining a research program and staying in touch with your mathematical communities. You will likely require more financial support than you first expect. I found that when I went from a graduate program at a large research university to a small and somewhat isolated setting I needed to travel much more to keep in touch with the broader mathematical world. Also, registration costs for conferences were high, and I was often paying a full “professor” rate for many conferences instead of the “postdoctoral scholar” rate that many other early career colleagues paid, not to mention the US-Canadian exchange rate. The location of your institution matters too: costs will depend on whether you are near a central air hub or if there are many professional activities occurring. While travel is often the most expensive item, computer equipment and books should also factor into this.

Consider library resources available. Smaller institutions often have access to fewer books and papers than research institutions. Interlibrary loan programs can help you gain access to additional materials, but a wait of even a few days can stall your research.

You might also consider access to students (undergraduate or graduate) to help further your scholarship. Many universities support student research by offering research assistantship funding, but sometimes teaching-focused faculty do not have access to these programs.

How Much Stability Do You Need?

Historically, teaching-focused jobs have often not had the stability of tenure. You should consider your level of comfort with the contract length and contract renewal process. When looking at particular positions, find out as much as you can about how contract renewals or tenure review processes are handled. What is the success rate of

people who enter the process? Is there support for preparing your applications? You should also consider potential life changes: while you might be confident in your ability to pour your entire self into your job now, you might feel differently when care responsibilities increase or when your energy level changes.

What Else?

Finally, you should make the usual job considerations, including salary, flexibility, work culture, and location. While the application processes and considerations can be overwhelming, staying focused on what you need to be successful and why you are choosing a teaching-focused career will allow you to navigate this time with confidence and excitement for the opportunities that lie ahead!



Sarah Mayes-Tang

Credits

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Non-Tenure-Track Teaching Faculty in Research Departments

Hanna Bennett and Rebecca Swanson

Non-tenure-track positions are becoming increasingly common in academia. The American Association of University Professors states that in 2016, 73% of instructional positions in academia were off the tenure track [1]. In a 2017 *Chronicle* article that provided an analysis of a study done by the Government Accountability Office on these positions, one of the takeaways was that “freshly minted academics are apt to wind up with jobs off the tenure track” [2]. Both

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DOI: <https://dx.doi.org/10.1090/noti2107>

of the authors of this article work as non-tenure-track faculty at research institutions. While exploitative contingent faculty positions are a major problem in academia, we offer our own experiences here to demonstrate that non-tenure-track faculty positions do not have to be exploitative.

Many mathematicians are familiar with the standard expectations of a tenure-track position related to teaching, research, and service, but the expectations of non-tenure-track positions have much greater variance. Our goal here is to provide the reader with information about non-tenure-track positions in research institutions by sharing our own individual stories as well as advice that we have for those interested in such positions.

Hanna's Story

When I was finishing graduate school, I applied primarily to postdocs. I knew I ultimately wanted to have a job where teaching played a major role, but I also wanted to keep as many options open as possible awhile longer, and a postdoc seemed like the best way to do that. But by the third year of my postdoc at the University of Michigan, I was sure I wanted a career with a focus on teaching. I'd attended a small liberal arts college, and had originally assumed that's where I would end up. But I found I really loved the atmosphere of a large research department, and when undergraduate students told me I was the only instructor they had that semester who took the time to learn their names, I found myself thinking, *don't these students deserve to have instructors who make teaching a priority?* I also have a long history of struggling with anxiety, and had concerns that the tenure process would likely be bad for my mental health, making a position that didn't require it more attractive.

After my postdoc, I spent three years as a lecturer at the University of Texas at Austin, where I primarily taught, but also had opportunities to do things like designing curriculum for new courses. Ultimately, I decided I wanted to return to Michigan for personal reasons, and was fortunate that Michigan was hiring long-term lecturer positions at that time for its Introductory Program, which consists of Calculus I, Calculus II, and a course called Data, Functions and Graphs (the course before calculus). All three courses have uniform exams but are taught in very small sections, using active learning, with graduate students and postdocs serving as the instructor of record for most sections. UM was in the process of reducing the size of these sections from 32 to 18, and they were hiring lecturers to help with the increase in administrative work that came with this change.

There are essentially two levels of lecturers at UM. The Lecturer I/II positions are intended primarily for teaching, and these lecturers teach three courses per semester. My position, as a Lecturer III (and now IV), comes with multiyear contracts and the expectation that I will be involved in administrative work. This reduces my teaching load; I typically teach one or two courses per semester. My administrative work comes with a number of responsibilities. I am part of

the team that trains 40–60 new graduate student and postdoc instructors in our week-long professional development program every fall; I coordinate one of the Intro Program courses, which involves creating homework and exams, running the exams and grading sessions, running meetings for instructors, and dealing with the myriad unusual situations that arise in a course with hundreds of students and dozens of instructors; and I observe and provide feedback to new instructors, and generally provide teaching-related advice and support to department members. As a course coordinator, I am able to develop a valuable mentoring relationship with graduate students who teach for my course, which can extend beyond teaching support to helping them navigate life as a graduate student. In addition to the courses I'm coordinating, I've also taught courses for future teachers and honors courses. I am now one of the codirectors of the Introductory Program, and play a greater role in overseeing the program as a whole.

I work closely with a small group of faculty, and love the sense of community we have built within this group. Our tenure-stream colleagues understand that we have specialized expertise and play a valuable role in the department, and they treat us with respect. We have quite a bit of autonomy to run the program as we see fit—we are currently working on making substantial changes to the assessment and grading structure of one of the courses—and we are consulted in other departmental teaching issues. We are full citizens within the department: we serve on committees, advise undergraduates, participate in outreach programs, and vote in everything except personnel decisions. While scholarship is not a requirement of the job, some of my colleagues remain active in research. Ultimately I've been able to build a career I love, working with fantastic people, and feel like I'm playing an important role in my department and the mathematics community as a whole.

Becky's Story

After attending a small liberal arts college (SLAC), I attended graduate school in mathematics with the goal of returning to a SLAC as a professor. I achieved that goal, but there was a problem. In particular, it was a two-body problem. My (now) husband and I were living in different states halfway across the country from one another and wanted to find jobs in the same geographic area. We didn't think we would necessarily end up at the same institution, as he was much more interested in research, whereas I wanted to focus more of my time on teaching. When my husband was invited for an interview at the Colorado School of Mines, a medium-sized engineering university in Golden, CO, he was informed that the math department had just received approval to open a search for a non-tenure-track teaching associate professor (TAP). I was intrigued, applied, and was eventually offered the position.

CSM certainly isn't a SLAC, but there are many aspects of the TAP position that are similar to my former SLAC job.

The focus for both is on teaching. Service expectations are also comparable. Scholarship was part of my SLAC position, but those expectations were minimal, whereas CSM has no scholarship expectations for teaching professors. (Scholarship is, however, valued in the promotion process.) I had other concerns, though. First, I wanted my job to be secure. My position is not on the tenure track, but I have been at CSM for eight years now, and I am not concerned that the position will end. Second, it was important to me that I be an equal member of my department, that I have a voice and say in decisions that are made, and that the environment is collegial. At CSM, teaching professors have full voting rights and play roles in both departmental and university governance. Additionally, due to the existence of qualified and dedicated teaching professors, a symbiotic relationship exists among teaching faculty and tenure-line faculty. The tenure-line faculty get to focus their time and efforts on the graduate program, while the teaching faculty are in large part the face of the department to the undergraduate students. Different members of the department appreciate and value one another. Next, I wanted to have a say in my teaching duties. At CSM my wishes are taken into account when classes are scheduled. It was also important for me to continue to be an active member of the greater mathematics community. I was happy to find that each faculty member in my department, regardless of stature, receives the same annual travel support, in addition to funds available at the institutional level, and teaching faculty are provided start-up funds. Finally, the pay and benefits of the TAP position were comparable or better, when adjusting for cost of living, to those at my SLAC position.

After eight years, I can say that I am very happy in my position. I teach 18 credits each year, and I regularly coordinate a course, which involves creating assignments and exams, supporting other faculty in teaching the course, and populating online homework and our learning management system. Since we are on semesters, this translates to a 3–3 or 3–2 teaching load depending upon which classes I teach. I spend much of my service time working in the same way I did at my SLAC position. I advise student groups, such as our Putnam Team and our AWM chapter, serve on departmental and university committees, and serve the greater mathematical community at both the regional and national level. Free from the stress of publication expectations to get tenure, I am able to align my scholarship with my passion for teaching, and I now work in the Scholarship of Teaching and Learning (SoTL). There are additional benefits that I didn't anticipate. Due to the value CSM has placed upon teaching and teaching faculty, the institution has provided additional resources that did not exist when I accepted my position. There is now a sabbatical program for teaching faculty, as well as a teaching and learning center that has been incredibly supportive in helping faculty adopt and implement innovative teaching methods. Recently, multiyear contracts were approved by our board of trustees. Another

unexpected benefit is related to our department size. My department has ten teaching faculty members, as well as teaching postdoctoral fellows and adjunct faculty that are passionate about teaching. This means we have the critical mass to meet regularly to have discussions about teaching and learning. Although my original goal was to work at a SLAC, being a teaching faculty member in a research institution ended up being a wonderful fit for me, and I recommend others to consider such positions.

Our Advice

Our experiences and conversations with colleagues elsewhere have taught us a lot about teaching positions in research departments. If you are thinking about applying to or accepting one of these positions, the following list contains some questions you may want to consider. They are listed alphabetically by topic; you should think about which of these matter most (or at all!) to you.

- Culture: Do teaching faculty interact with nonteaching faculty? Are teaching faculty valued by the department? By the institution? How big is the department? What proportion of the department is teaching faculty? What is the breakdown in the numbers of teaching faculty versus tenure-line faculty?
- Duties: What sort of control do you have over your time? What are the department's expectations? Is this vision reasonable? How many classes will you teach? How many preps should you expect at a time? What duties do you have outside of teaching? How much input do you have in shaping your position?
- Governance: Are you allowed and welcome in faculty meetings? Will you have a vote in departmental/institutional decisions? Will you serve on departmental or institutional committees? Are you represented in the faculty senate?
- Position Title: Teaching positions at research institutions go by many names. You might see them advertised as Lecturer, Instructor, Teaching Professor, Professor of Practice, etc. Does the title matter to you?
- Promotion: Is there potential for promotion? What are the expectations for promotion? Are these expectations reasonable?
- Salary/Benefits: Is the salary and benefits package reasonable for you? Is there a union? What expectations should you have for raises?
- Scholarship: Is publishing valued? Required? Looked down upon? Are certain types of scholarship valued over others? (Maybe teaching-related scholarship is valued, but subject-area scholarship is not.)
- Security: Does the job seem secure? Are there contracts? How long are contracts? Are there rules about how much advance notice you would receive in the case your position was terminated?

- Support: Do teaching faculty have access to travel funds? Is there a sabbatical program? Do you get start-up funds? Is there paid parental leave?

If you are on the job market, you should think carefully about what aspects of a potential job are really important to you. There isn't a single perfect job for everyone, and there are many ways to be a good mathematician and academic outside of the traditional tenure-line positions.

References

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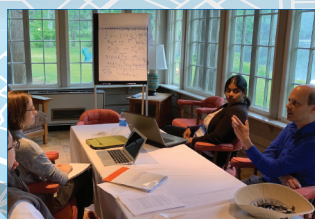


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