

afterGRAD: Grad Studies

The second part of a three part miniseries about life after an undergraduate degree

Undergraduate students just get a taste of academia. They dabble in different subjects and specializations, getting a bit from everything. But for those who are looking for more in-depth study and research, graduate school could be the next option.

Graduate school allows students to focus their research in subjects of interest — they can study basically anything you can think of.

Jessica Kolopenuk, a master's student in Political Science and Native Studies, discovered an interest in research as an undergrad in an honours program, where she looked at a band membership code and the impacts of the Indian Act as a form of informal federal control over the membership decisions.

“My decision to do an honours degree allowed me to do one concentrated project on a topic I was very passionate about,” she says. “In your undergrad you usually have to do a little bit of this and a little bit of that in each class, but this was the first opportunity I had to really determine what I loved to study.”

Kolopenuk thought she wanted to go to law school, but changed her mind after attending the Native American and Indigenous Studies Association conference in Tuscon, Arizona. Experiencing academic gave Kolopenuk the final push to change her mind and pursue graduate studies.

“It was my first big international conference and I was presenting at it as an undergrad and it was obviously really nerve-wracking — I think I was the only undergrad there,” she says. “But that experience made me feel as if academia was for me. I felt really at home and it was just such a wonderful experience to share my research, to observe these leading scholars in the field, to start professionally networking.”

Now, Kolopenuk is doing her masters on a court case, *MacIvor vs. Canada*, which led to legislative amendment to the Indian Act, and the way in which “indigeneity was racialized in the courtroom.” She doesn't only get to study things that she's passionate about, but she gets to work with a wide variety of people while doing it. Kolopenuk recently returned from a six-month trip to Australia where she was able to study with another professor whose work relates to her thesis.

However, grad school isn't for everyone. While Kolopenuk describes it as a full-time job that requires a good work ethic, there's no time sheet that needs to be stamped, making self-discipline extremely important.

“As a grad student because there's less structure, so you have to make that structure for yourself,” Kolopenuk says. “You have to find a way to be productive in a non-structured environment. I like independent work so it works.”

But even though the work is not structured, there's still a limited amount of time students can take on graduate studies. Masters degrees typically take two-four years, whereas PhD usually takes a maximum of six years. There are 6,000 graduate students on campus, and almost all of them conduct research, be it in a laboratory or in the social sciences. There is the option of doing a course-based masters in many programs, but even students who aren't working on one major thesis are conducting research in these programs.

Beyond the time she spends actually sitting down working on her thesis, Kolopenuk says research is always on her mind.

“Even when you're not sitting down working on it, you're still thinking about here and there, and something tweaks you — something you observe or something you hear — something tweaks an idea, so its an ongoing process.”

Ryan McKellar, who finished his PhD in the department of Earth and Atmospheric Sciences studying parasitic wasps in amber, also knows what it's like to be addicted to research. He decided to move on to grad school after having some exposure to research as an undergrad in the Honours Paleontology program.

“You don't really get to experience it fully until you start doing undergrad student research ... for summer work. It's a really good way to experience what's going on in your department ... you can get a taste for it. And once you get a taste for it, it's a little bit addictive,” he says.

McKellar did his undergraduate, masters, and PhD at the University of Alberta. As part of his PhD he examined 4,000 pieces of amber looking at insect inclusions, and in some instances feather fragments, using a dissecting

microscope. In total, he spent three weeks of full work days going through the pieces of amber.

“Most of the stuff that I work on is less than three millimetres in length, so tiny tiny little insects, and most of the feather fragments were in the same sort of ballpark for size,” he says.

McKellar found 11 pieces with feather fragments, which were the first three-dimensional dinosaur feathers discovered and gave McKellar and his supervisors insight into feather evolution. This discovery led to a publication in the journal *Science*.

The dinosaur feathers are only a small part of McKellar's research. As a masters student, he worked on trilobites, and for his PhD he also studied stable isotopes in amber and what those can tell scientists about the environment during the Mesozoic era. McKellar's research and his experiences as a researcher have been extremely diverse, which is one thing he points to as a positive of his experience.

“A lot of it comes down to field work, so things like collecting at weird and wonderful collection sites. My PhD wasn't too exotic — it was down by Taber in an old coal mine. But in terms of Masters work, we did two months combined worth of field work in southern Morocco,” he says.

Over the course of his PhD, which McKellar completed in five years, he's kept busy. He describes graduate work as full-time job, working eight hours per day Monday to Friday, although he says it could be longer or shorter depending on the project. McKellar says that despite the hard work, the greatest thing about research is having the freedom to study what you want.

“It takes on a whole new life when you get involved in the production side of things for research,” he says. “A lot of the undergrad work you're taking up other people's work, whereas when you get to produce your own, you get some of the freedom that comes with that in terms of choosing topics and choosing supervisors, going and actually attaining specimens.”

If potential grad students are going to do a thesis-based masters, the most important aspect is approaching a department and trying to find a supervisor that meets your interests.

“Your supervisor has a really important role I think ... so (finding someone) you connect with intellectually and on a personal level to some degree, as well. So for me, the supervisory role is key in finding an institution that would suit you,” Kolopenuk says.

From there, the application procedures vary by department, but usually students will have to submit their resume or CV, transcripts, letters of reference and a statement of interest.

Applications for grad school are received by departments, but they can only recommend admission. The formal admission comes through the Faculty of Graduate Studies and Research. Joyce Anderson, the Supervisor of Program Services and Admissions for FGSR, has been with the faculty for almost 20 years and has seen it all when it comes to graduate studies.

From a student perspective, Anderson says that it's really about carving out your place in a department.

“I think it comes down to what does the student really want and then they need to pair up with a department that offers something that they're interested in,” she says.

Grad school can be intellectually satisfying, but the goal after school is still to get some type of job. For McKellar, he's hoping to get a post-doctoral fellowship so that he continue research while looking for jobs within academia. Kolopenuk is hoping to pursue her PhD after her Masters. Once you get a taste of research, you just can't get enough.

Anderson says that hopefully, grad school is related to what students want to do in their future careers, but she think it's worthwhile regardless.

“I think that anybody that wants to learn and expand their horizons are gaining something, be it with a bachelors degree, a masters degree, or a PhD. I think when you to school you're gaining some experience,” she says.