Pursuing Interdisciplinary Scientific Research
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When you peruse the front pages of Science or Nature, it is clear that interdisciplinary research plays a critical role in fueling new discoveries and forging innovative solutions to global challenges. Yet, for many years universities resisted the idea that graduate students could or should pursue interdisciplinary scholarship. It was thought that a graduate student could not possibly have the depth of knowledge to work at the interface of more than one discipline. And, even if they were successful in their graduate program, they would have difficulty finding a position, especially within academia where rigid disciplinary boundaries have often guided faculty recruitment.

Times are changing. It is far more accepted for graduate students to pioneer new interdisciplinary paths within more traditional degree programs; some formal graduate interdisciplinary programs are funded by the National Science Foundation. The excitement and prestige associated with interdisciplinary research can be greatly rewarding. The tips below aim to mitigate the risks that may accompany those rewards. These tactics are time tested: they guided my own Ph.D. program at the UW in the 1980s, and I have used these same ideas to mentor graduate students in my research group.

The key to success in interdisciplinary graduate research lies in understanding that, although your work crosses disciplines, you must give due diligence to each individual discipline so that your efforts may be recognized not only as broad, but also as solid. You must then cultivate expertise in all of the areas in which you will be working, but with guidance from your committee and foresight in identifying courses and activities that provide both broad and deep knowledge, any extra effort put forth toward an interdisciplinary graduate research program will bring the knowledge and standing for being able to see past traditional boundaries to ask and answer questions inspired by today’s challenges.

**Six Tips for Success in Interdisciplinary Graduate Research**

1. **Hone your vision.** Interdisciplinary research is demanding. A first step in convincing your mentor and graduate committee that you are up to the challenge is to present a strong argument of how your particular interests fit into a larger...
vision and how you are motivated to pursue that vision. Make sure you can explain your goals in a succinct, compelling manner to people both within and outside your current home department. This might mean narrowing your scope to the top, say, four disciplines that you plan to use to get at your research question.

2. **Choose your committee with care.** Do your research ahead of time, identifying as many interdisciplinary researchers you’d like to work with as possible. Ideally, both your mentor and other members of your graduate committee have successfully engaged in interdisciplinary scholarship and can offer guidance about how to proceed.

3. **Delve deeply into each discipline.** You will need to develop a deep understanding of the disciplines that contribute to your research. Graduate classes are information-rich, and your committee and home unit should be able to help you identify courses that efficiently address the fields in which you are interested. But coursework is just one way to increase your expertise in multiple fields; by keeping abreast of current publications and attending seminars you will gain knowledge of the history, methods, and current topics of different disciplines. This extra effort ensures that your work is not dismissed as that of a dilettante.

4. **Collaborate, collaborate, collaborate.** Join forces with colleagues who are experienced and/or interested in working across disciplines—including fellow graduate students and postdoc peers, as well as other academics and professionals outside of academia. A critical part of interdisciplinary research is being able to communicate and collaborate toward group efforts. You don’t have to be an expert in everything to be interdisciplinary, but you do have to contribute essential and original work while supporting contributions of others. Solid evidence that you can work well in the sandbox is more important than evidence that you can get something out the door all by yourself.

5. **Engage with professional societies.** It is critical to attend and present your work at the meetings of discipline-focused professional societies. This engagement will develop your understanding of the broad range of viewpoints and lines of inquiry in those fields. It is also an excellent way to meet others in your fields and to discuss your research with experts from other institutions.

6. **Actively grow your interdisciplinary reputation.** You want to be recognized not only as providing relevant work in each of the disciplines that contribute to your scholarship, but also as being able to see across disciplines. You can plan ahead to make sure that this is the case. Cultivating your interdisciplinary status includes publishing your research in flagship journals of more than one discipline. Additionally, proactively seek out ways to bring others together across disciplines for practical and/or enjoyable activities. As the challenges of our time span across fields, your expertise can be brought to bear in many relevant ways that will also serve to bolster your reputation as an interdisciplinary researcher.

Engaging in an interdisciplinary graduate research program is not the easiest way to get through grad school, but it can be the most efficient and most exhilarating way to address compelling research questions. When you rise to the challenge of building strong foundations in individual fields, while developing a strong vision that collaboratively spans disciplines in the service of your research, you are likely to successfully launch a deeply satisfying career!