

## Developing a Graduate Mentorship Contract

### Basics of being a biologist

When do you start being a professional biologist? Getting a graduate degree in biology is not like getting to a professional degree in medicine, law, or business. There are no fixed requirements for your degree beyond those minimal ones set by your department and committee, or any recognized canon of material that you must memorize to be considered a qualified expert. Your dissertation will be based on original work that you do while you are titled “student”, but the scientific community will receive it the same way as any other work, whether it came from an undergraduate or a tenured professor.

You will have to work hard in a self-motivated manner. You will teach yourself new things, work with collaborators, and stand up for your ideas using logically reasoned arguments. As you progress, you will design an increasing number of projects, mentor undergraduate students, teach fellow graduate students skills. You will master methods and literature your advisor doesn’t know. The people you work with will have things to teach you too. At the end of your dissertation, you will be accountable for the integrity of the science you have done. This is a list of the core responsibilities that any biologist has. So, in that sense, you are a professional biologist from the day you start grad school.

All this sounds like a lot of responsibility!

Take a breath. The water is not too deep to swim.

Read on for more.

### Learning how to be a biologist

So, you’re a professional biologist, but nobody expects for you to know everything. This will remain true even when you’re well on your way to being emeritus. We discover how to fill our roles as we go along.

How do you learn all of the skills that you need? In part, you learn them observationally – by imitating more experienced colleagues, and figuring things out with other students. You’ll also teach yourself a lot. But at some point, you will need advice. The most obvious and important source of it is your academic advisor. In the strictest sense, an advisor is someone who gives general, factual advice that generally applies to all of the students they interact with. In fact, a good advisor will do a lot of that! However, their advice will become much more valuable if it is delivered in the context of mentorship. There is a distinction between advising – giving general advice – and mentorship, which is specific to a particular mentee (Montgomery et al. 2014). A mentoring relationship takes into account the goals, responsibilities, and values of the mentee, as well as those of the mentor. Developing a mentoring relationship is a process, and the result will be individualized rather than a general prescription that would work for anyone starting a PhD. This is why it is helpful to have a mentorship contract. It can orient a relationship, provide a framework for setting and evaluating goals, and ameliorate conflicts.

This document is mainly about developing a mentoring relationship with your advisor, although other types of mentoring relationships will be necessary for success (Montgomery 2017). You may find mentors among your committee, other professors, postdocs and senior graduate students, or other places.

### Important considerations in a mentorship contract

#### *Goals*

Sit down with your mentor to have a conversation about what you both want. They may reach out to you, but you should take initiative in reaching out to them. Invite them to coffee or simply to meet, at a time that is good for both of you, and let them know what you want to talk about. Mentorship is a bidirectional relationship – both parties must want to engage with one another (Montgomery 2017). The interests of academic advisors and their students are automatically aligned where their research interests overlap – if

you are both passionate about protein folding or mollusk phylogenies, you already have a lot to go on. Shared values can also be an important foundation for mentorship. Some examples of values include: a commitment to promoting scientific reasoning, improved science education, promoting diversity in STEM, technological innovation, science policy reform, or environmental conservation. Shared interests and values are the basis for setting goals. Both the mentor and the mentee should explicitly list goals that they hope to achieve from the mentoring relationship. They will almost certainly include research-specific goals, but should also include professional development activities and perhaps activities that advance concrete objectives related to shared values. Success in your career will depend not only on your research, but also your professional preparation.

At the start of grad school, you may not know exactly what it is that you want to accomplish. This is OK. There are many known unknowns and unknown unknowns. The important thing is to have a plan to explore your current interests and develop new ones by trying new things. Often, this involves doing a lot of reading, running a pilot study, taking classes, attending seminars, or visiting in new laboratories. You should discuss with your mentor what activities you will do to develop your interests, and list them as goals. If your advisor has a research project that you are assigned to work on, you may also have the goal of receiving direct instruction in specific methods, and participating in scientific publication.

### *Responsibilities*

Once goals have been established for the relationship, it is important to figure out who is responsible for advancing them. This is not always obvious. If a goal is for the mentee to establish a network of collaborators, the mentor may expect the mentee to proactively introduce themselves to colleagues, while the mentee may expect introductions to their mentor's extensive pre-established network. Talking about what will actually be done and by whom can avert this kind of misunderstanding. Even if the goals are broad so that responsibilities are fairly generic, it can be helpful to list them out. Ideally, both mentors and mentees will have independent responsibilities to help realize a goal. For example, getting a job interview might require that the mentee actively seek out job opportunities and prepare their application materials, but also a mentor who acts as their mentee's best advocate by promoting their research, writing letters, and vetting application materials. Structuring responsibilities in the form of an Individual Development Plan (IDP) is a useful approach.

### *Reassessment*

Every once in a while, schedule time to reassess the mentoring relationship, and bring up ways in which it can be improved. If goals have been met, they should be celebrated, and new ones should be made. If opportunities have been missed, then the mentor and mentee should work together to figure out why, and what needs to be done to improve things going forward. And if parts of the relationship aren't working out, reassessing the nature of the relationship in a professional way help both mentor and mentee.

In having a conversation where the mentor and mentee might have different ideas about the relationship, it is helpful to keep an open mind to all possible outcomes, and to list possible outcomes out loud. Genuinely listen to the other person, and show that you are doing so by paraphrasing their statements. Realize that getting your way is not the goal of the conversation. "Winning" happens when both people feel like the conversation is a success, regardless of whose ideas carry the day. Specific methods for dealing with conflict are well dealt with by professional assertiveness training, which is a tool with broad relevance to all forms of communication, whether someone struggles with communicating too passively, or too aggressively (Duckworth and Mercer 2006).

### *Limitations*

The mentorship contract is not legally binding, and assumes good faith and trust on the part of everyone involved. It should be worded simply, and used as a guide, not a tool for litigation – if things get to that point, the contract isn't serving its purpose!

## References

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