**Coming up with a career development plan**

The following is an example of a framework for planning your graduate career, and for discussion between yourself and your adviser about your goals and progress. You are not required to write down a development plan, or to use this particular framework, but you might find it helpful to consider some of these questions as you make your plans.

To begin your development plan, answer the following questions. You and your adviser can use this as a basis for discussion at least once a year (once a semester might be best). Your long-term and short-term goals are likely to change as you progress through graduate school so it is important to revisit this regularly.

* What are your long-term goals (what type of job are you preparing for, (optional) any life-goals that constrain your job goals)? If you don’t know yet, what is your plan for figuring this out?
* What do you currently see as your main area/areas of research interest? (make this as specific as you comfortably can). Do you want your future research to be primarily in basic science or primarily applied or some mix of these two?
* Lay out a general schedule for your time in graduate school or your postdoc (whatever fits your current stage). For each year say if you are taking classes, doing research (when it should be exploratory, when you need to be doing your REAL research), writing, submitting proposals and taking prelims (departmental requirements), submitting any grants, applying for jobs, etc., and where you expect your funding to be coming from.
* Make a list of your skills/abilities/experience that are strengths (see list below for reference). Highlight any that are particularly relevant to your stated career goal.
* Make a list of your skills/abilities/experience that are weak (see list below for reference). Highlight any that you particularly need to improve to work toward your career goal.
* Make a list of skills/abilities/experiences you will need to go outside the department to learn, and sources for learning them (workshops, other labs, internships) if known.
* Update your CV or make your first one if you haven’t done this before. Ask someone who has recently achieved your next career goal for a copy of their CV for reference.
* What are some things you’d like to have on your CV by the time you finish grad school or finish your postdoc?
* What are your main goals for the next year? (what you want to learn, produce, accomplish)
* What will you actually do in the next year to meet those goals? (what activities will you engage in)
* What are your expectations for what your adviser will do for you? In general, and in the coming year?

Your adviser should also write down their answer to the question “What are your expectations for your student over the coming year and in the course of their graduate career?” and you and your adviser should exchange responses and discuss.

**Skills one might need to be successful in grad school or a scientific career**

To get you thinking about specific skills which might be important for you, the following is a partial list of relevant skills. Not all these skills will be relevant for everyone and many important skills are likely missing. This list was initially developed for a lab that does experimental ecology. Different types of grad research or post-graduate careers might require additional or different skills, and different skills will be important to emphasize at different points in your graduate career. **It would be good for each student to think (and talk with their mentor) about what an appropriate list of skills would look like for them and their field.**

General  
Working ahead to meet deadlines  
Juggling multiple obligations (teaching, research, service, life)  
Maintaining mental/emotional health  
  
Doing science  
Identifying important questions

Creativity (seeing new ways to look at a problem)

Mastering the scientific literature on a particular topic

Critical analysis (identifying flaws in in arguments)

Defining key assumptions/parameters

Deciding what you should measure

Learning techniques that allow you to measure what you want to

Mastering lab skills/trouble shooting lab techniques

Designing experiments or observational studies or other types of data sets

Setting up experiments/collecting data

Taking field and lab notes   
Developing and understanding general theory (mathematical or otherwise)

Data analysis

Data management (producing clearly annotated and organized data files and code)

Constructing or using mathematical models   
Supervising/motivating assistants

Identifying applications of your work/identifying applied problems of interest

Funding your work

Identifying funding sources

Writing a fundable proposal

Getting help with constructing proposals

Writing papers or proposals  
Getting writing done (making time to write, completing things)

Shaping your material into an interesting narrative

Clarity and logic in writing

Grammar  
Identifying key patterns (unanswered questions, new ideas, current state of literature for context, main conclusions from analyses)

Constructing effective figures and visuals

Teaching  
preparing materials for a class (syllabus, etc.)   
teaching (comfort in the classroom)   
leading discussions

Constructing and grading exams to assess student knowledge

Providing feedback on written work (teaching writing)  
mentoring students (undergrads or grads):

Knowing/finding most effective teaching approaches/understanding how students think

Participating in the scientific/academic community

Preparing to discuss papers in reading groups  
Talking with visiting speakers  
How to get something out of attending seminars  
Preparing/giving research presentations  
How to get something out of attending conferences  
Staying well-informed so you can have intelligent conversations  
Reviewing papers for journals

Service (to the university or scientific community)  
  
Working with others on committees  
Getting what you want within a department or other organization (implementing new approaches, meeting your own needs)  
Identifying types of service/leadership that interest you

Broader Impacts (service beyond the university or scientific community)

**NOTE:** If your career goal is outside of academia you need to find out what skills are needed for the type of job you want. Talk to people who have those jobs to find out what you need to learn. The list below is surely not exhaustive!

Identifying a research project that is relevant to an applied problem  
Identifying types of outreach that interest you  
Science writing  
Communicating with the media  
Communicating with government officials  
Communicating/collaborating with stakeholders (e.g. land managers, farmers, fishers)  
Working with K-12 classes and K-12 teachers  
Evaluating the success of “broader impacts” teaching activities  
Adult education