

Expectations of Graduate Students by your Supervisor - Mark S. Boyce

Many new students, particularly those beginning work on the M.Sc., do not know what is expected of them in a graduate program. The first step should be to visit the Department of Biological Sciences Graduate Studies website (<http://www.biology.ualberta.ca/programs/graduate/>). By clicking on the Current Students section you will have access to the Graduate Studies Manual, Program Requirements, Courses, and other important information. Read these so that you understand the course requirements and other responsibilities of graduate students in our department.

What do I expect from my students?

- to keep me informed of your research and course activities. If you start going down a blind alley in your research, I will not be able to help you if I do not know what you are doing. You can either schedule regular meetings with me or schedule a meeting when you feel that you need input. Or just show up at my office when I'm in...open door policy.
- to apply for funding for your project and travel to meetings. You need to be aware of deadlines of funding applications to the department, which are due at least a month in advance to receive signatures (http://www.biology.ualberta.ca/grants_and_awards/).
- to meet all mutually agreed on deadlines for committee meetings, completion of work etc.
- to maintain a degree of independence, especially for PhD students. Don't run to me with every question that you have. Look it up yourself first and try to find a solution or solutions. Then come to me and discuss various options.
- to work hard both in the lab and in the field. Often the difference between producing a thesis that is mediocre vs excellent is hard work.
- to publish your research results within a reasonable time (see below).
- to have responsibility for your actions. For example, if you damage field equipment through negligence or fault, then you should not necessarily expect me to find the funds to repair it. This also applies when using personal vehicles for field work (the lab will not be responsible for covering damages to personal vehicles).
- to cover all maintenance and insurance costs while using a privately owned vehicle for field work and claiming mileage. Repairs are not allowed to be charged to the lab.
- to prepare a budget for your research program for my approval and to stick with that budget. Please note that students are required to pay for their own meals while attending meetings at the lab's expense.
- to attend Wednesday nighters, Friday noon ecology seminars, quantitative ecology discussion group meetings, and lab meetings and try to participate in them. Absorbing information is not the same thing as critically evaluating it.

- to look after your field equipment, including routine maintenance of vehicles.
- to finish your thesis in a reasonable time. Departmental rules are *maximum* 3 years for an MSc and 5 years for a PhD. I will not write letters for program extensions beyond these periods unless there are extenuating circumstances.

What should you expect from me?

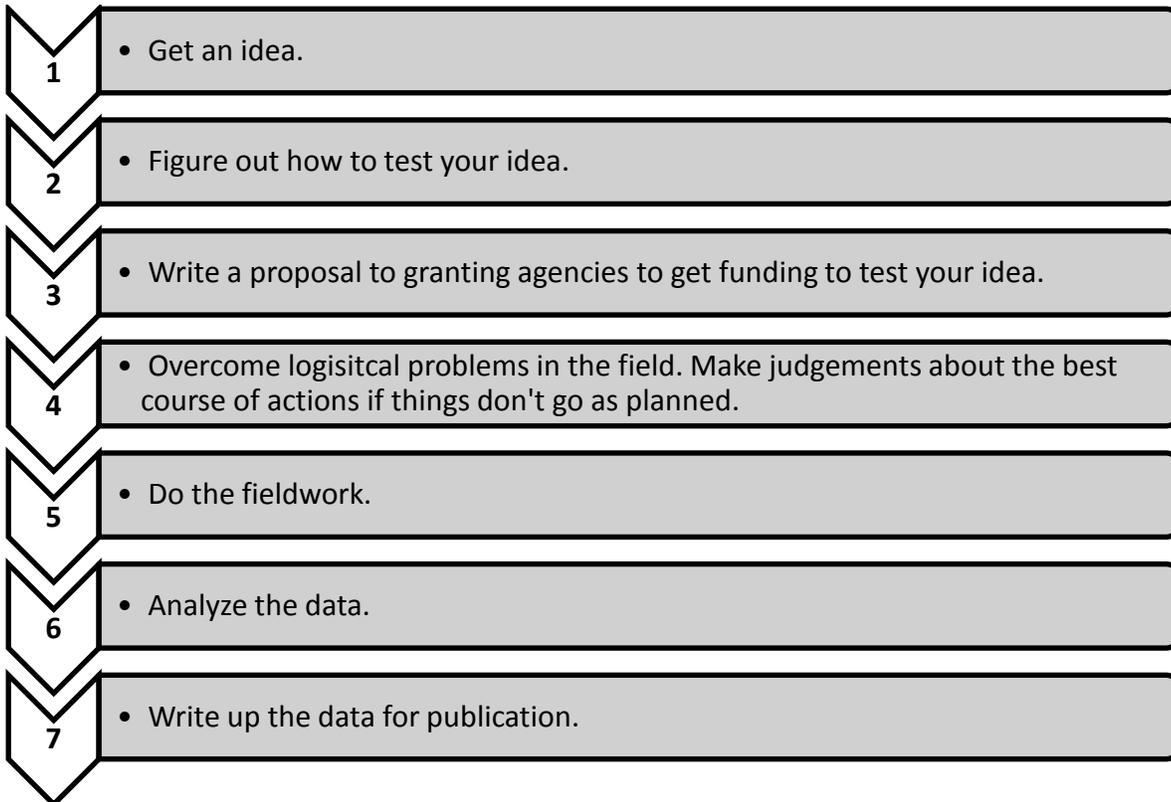
- to provide editing and critical input on your research proposals, progress reports and thesis, done within a *reasonable* time (24-hour turnaround time is not reasonable).
- to discuss ideas for research projects and to help you to develop your proposal. Ph.D. students are expected to be more independent on this.
- to discuss analysis, organisation of thesis and publications.
- to provide an opportunity for you to develop as an independent researcher and to foster an atmosphere of learning.
- for non-scholarship students, to provide financial support during the four months of summer field research when the department does not support you. The expectation of the department is that a supervisor should pay students the equivalent of one academic term (approximately \$7913 for MSc and \$8131 for PhD). Because all funding for the lab comes from research grants, most of which are renewed annually, there is an element of risk here if grants are not renewed.
- to provide reasonable support (financial, logistical) of your research program. So far, I have always been able to support my students' research quite well. However, students must realise that I do not have a never-ending supply of grant money, and that they must budget accordingly.

What NOT to expect of your supervisor:

- to give instant turnaround with feedback on proposals, letters of reference etc.-- please give at least a one-week notice.
- to answer trivial questions that you could look up yourself. Some days I am interrupted 4-5 times an hour making it difficult to get work done.
- to provide financial support beyond the end of departmental or scholarship support.
- to have the answers to all your questions. Seek out advice from fellow students, statistical experts and committee members or other faculty if necessary.

My philosophy about rights to data and publication:

I see science as a collaborative effort with the ultimate goal being a better understanding of how nature works. There are several steps in the process of doing science and a graduate student and supervisor might participate in all of these or only a few. I see the following as the basic steps.



Depending on where we are in our careers (MSc, PhD, postdoc, professor) we participate in each step a variable amount. For example, an MSc student might be given the idea by the supervisor and be helped considerably in the rest of the steps. Usually the supervisor raises the bulk of the research money and deals with most of the financial and logistical headaches. PhD students and postdocs would be more independent in the development of ideas and analysis of the data.

In terms of rights to data and publication rights, the priority is that data are published. There is no point in conducting research if the data are not published. Some research funds are from applied agencies that insist on publication as a term of the contract. To obtain pure research funds (such as NSERC operating grants) one must publish or one does not keep getting such funds. As the holder of these grants I have a responsibility (legal and moral) to make sure that the data are published.

My expectation on data ownership and publication:

1. A copy of all data collected (e.g., on a CD), maps showing sampling locations, and a complete write up of methods must be given to me for safe-keeping in the lab at the end of each field season. This gives you a backup in case of data loss, and it allows me access to the data if you disappear, or do not plan to write up the data.

2. If the data are not written up for publication within one year of the thesis defense, or within one year of a postdoc leaving the lab, I reserve the right to publish the data with the student as co-author; order of authorship to be decided after consultation with the student/postdoc.
3. If the student does not write and defend a thesis, I reserve the right to publish the data after one year past departure of the student if no action has been taken by the student to publish the data (i.e. I would need to see a draft of a manuscript).
4. In situations where the student/postdoc is writing up data for publication, the following guidelines with respect to authorship will apply: a) if the student has completed all the steps (1-7) above with minimal consultation from me, then the student will have sole authorship on the paper. b) If I have provided input on several of the steps above I would expect to have an authorship on the paper. Each student should discuss this with me and present arguments pro and con as to why they should or should not have sole authorship. Or a more comfortable approach may be to offer me the right of first refusal as a junior author—if I do not believe that I've earned co-authorship I'll refuse it. Usually dual-authored papers would have me as a second author, however, in some cases I have had to substantially rewrite and reanalyze data for a paper. In these latter cases, order of authorship must be discussed again. I don't want to be Draconian about this, but I have been burned a couple of times in the past and do not want this repeated.

There are good reasons to publish with your supervisor, particularly if s/he is well known in the ecological community, but it is also a good idea to have some sole authored papers, particularly at the PhD level and when you plan to have an academic career. Sometimes students see the professor/student relationship as an exploitative one and tend to overemphasize their own contributions and to undervalue the contributions of the supervisor (i.e. "I did all the field work, therefore I should have single authorship."). They do not realize that the field work is only one of the steps from 1-7. In my view a collaborative approach is best for both parties.