

# **Best Practices for Mentoring Graduate Students**

**Warnell Graduate Affairs Committee, 2019**

## **Goals for Graduate Student Mentoring**

Relatively simple practices can greatly improve the graduate/student advisor relationship and improve graduate student outcomes and experiences. Warnell graduate student exit interviews indicate that most of our graduate students are very satisfied with their experience, but also reveal common issues that should be addressed. The most common problems in graduate student/advisor relationships are mismatched expectations, inadequate communication, and inaccessibility of the Professor. The Graduate School reports that these are the same common problems in other programs. Conversely, when we ask Professors what they view as the most common graduate student problem, they indicate substandard writing skills, waiting too long in the graduate program to begin writing, and not treating graduate school as a job with responsibilities and deadlines. Better mentor/mentee relationships can reduce frustrations on both sides. In summary, we seek:

Communication! Shared expectations! A sense of project ownership! (and better writing)

Our goals for an MS or PhD student are numerous and they include: to develop a comprehensive understanding of the primary literature in their field, to scope a research project, to understand the strengths and weaknesses of different experimental designs, to understand reproducibility and falsifiability, to write clearly and concisely, to give effective oral presentations, to criticize their own work, to write a journal article or articles, and many more. These skills and competencies must be developed in someone who has previously learned mostly how to do homework, write review papers, and take tests. How do we get there? In this short document, we provide basic guidelines for mentoring graduate students, guidelines for recruiting graduate students, advice from very successful advisors (Appendix A), and examples of mentor-mentee compacts (Appendix B).

## **Guidelines for recruiting students**

Meet with students (in person or Skype) prior to accepting them to ensure your goals, expectations, and personalities are compatible. Avoid accepting students by written application alone. Also speak (by phone) to at least 2-3 references to gain a better perspectives of the strengths and weaknesses of students prior to them entering your program.

Connect potential graduate students with current or graduated students so they can learn about you from your students. This will give potential graduate students insight into how you work and how you mentor. This will help prevent mismatches in expectations.

Use a holistic approach to recruiting students beyond standard metrics such as GRE's and GPA. Factors such as practical experience, strong recommendations (especially from trusted colleagues), and evidence of ambition and potential success in research (e.g., participating in undergraduate research, presenting undergraduate research at a meeting, publications, awards, etc.) can be equally, if not more indicative of a student's potential performance.

## **Basic guidelines for mentoring graduate students**

Meet with students early upon their arrival, and use these meetings to learn their graduate school and career goals. Begin discussing mutual expectations, especially about how to communicate.

Meet with each graduate student regularly, at least biweekly. This doesn't have to be on a schedule, but if not, have an open door or access policy such that they feel free to talk to you.

Set goals for each semester. **Document** progress towards these goals, including areas where students need to show improvement.

Hold regular research group meetings. Use these meetings to share research, allow students to practice conference presentations or defenses, present research plans, coordinate field work, and/or discuss interesting new papers in the field. Research group meetings also help foster cohesion among lab members, particularly in large labs. If you have a small group, consider merging your meetings with those of a colleague working on similar issues.

Encourage or incentivize your graduate students helping each other with field or lab work. When possible, integrate research projects to provide students the opportunity to work together and gain experience working collaboratively with one another.

Try to build counseling infrastructure within your program, such that students have a variety of perspectives and experience levels from which to seek advice.

Be available and responsive to students. For example, respond to student requests and edit papers and presentations in a reasonable timeline. If you will be tied up and unable to respond quickly make sure this is communicated to the student.

Invite them to work on papers/use data that you would not otherwise have time to work on. This creates a space for them to work with you and get to know you, as well as, hopefully, publish an extra paper that neither of you would have published otherwise. It also gets them excited about the research process, which will pay dividends when it comes to their thesis or dissertation.

Try and locate your graduate students near one another, and preferably near your office. Of course, this is often not possible. If your graduate student offices are dispersed, regular lab meetings become more important. Encourage your students to work from their offices, not from home.

Put your graduate students in charge of their own paperwork.

Make sure you aren't spread too thinly. You should budget in the ballpark of 1-1.5 hours a week per graduate student. So, if you have 8 graduate students, that's 20% or more of a 40 hour week. Beyond a certain point, more graduate students is not better. Mentors with large numbers of graduate students need to apply more discipline to their mentoring programs (see below).

Encourage students to start writing early.

Encourage your students to attend several MS or PhD defenses.

Provide opportunities for all students to present their research at a minimum of one conference.

Try to have PhD students write at least one grant proposal.

## **Appendix A: Advice Gleaned from Interviews of Successful Mentors**

### **Guidance from Bob Warren, Professor Emeritus of Wildlife, Meigs Professor**

#### **Guidelines for hiring students**

Meet with students prior to accepting them to ensure your goals, expectations, and personalities are compatible.

Recruit students with practical experience and strong letters of recommendation, don't rely solely on GPA, GRE, and other commonly used metrics of academic performance.

Consider retaining "native" undergraduate students that you know have demonstrated excellence in self-motivation and critical-thinking skills from your own field-based (i.e., lab) classes.

Rather than advertising on national job boards, individually contact close personal colleagues and acquaintances from other universities to solicit their assistance in identifying students that you can recruit for graduate positions.

#### **Guidelines for mentoring students**

Meet with students regularly and have an open-door policy. Meet individually with students, not just in lab meetings.

Be flexible in your mentoring strategy and willing to adjust your strategy to individual needs of students.

Treat students as colleagues working towards a shared common goal. To help foster "ownership" in the research, encourage students to think that "they are working together WITH you on THEIR project" rather than that "they are working FOR you on YOUR project."

Invest in the success of your students, including aspects of professional development outside of the direct scope of their research project. Encourage students to become involved in professional societies, both on and off campus.

Set regular goals (e.g., every semester) and document progress towards goals, including areas where students need to improve. If necessary for documentation, provide these goals as "bullet points" in an email.

Work with students individually to help them prepare and deliver PowerPoint presentations based on their research for presentations at meetings or conferences on-campus, in-state, and out-of-state. Schedule and meet with "groups" of your students prior to the meetings or conferences for them to formally practice their presentations; then provide specific suggestions for improvement after each student's presentation so that all students can benefit from these discussions.

Devote effort to "building" your graduate students' professional dossiers by personally helping to edit their CVs, writing letters to nominate them for awards, and encouraging them to apply for professional development programs both on and off campus (e.g., teaching certification, leadership institutes, etc. ).

### **Common graduate student-mentor problems**

Inadequate communication, professors seeming inaccessible, students failing to meet deadlines and produce deliverables

Open and candid communication is critical to avoid and possible misinterpretations. Realize that your students interact with each other so be cautious that you treat them equally so that there is no possible perception of “favorites” among your students.

If you have research staff (e.g., Research Technician or Research Coordinator) assisting you in your research program, make certain they realize that your graduate students do not “work for them”; similarly, make certain your graduate students do not assume that they can expect assistance from your research staff. It is critical that you have open communication and clear lines of supervision among you, your graduate students, and your research staff.

### **Guidance from Gary T. Green, Professor of Parks, Recreation, and Tourism Management, Meigs Professor**

1. Interview students prior to accepting them to make sure your personality, work ethic, and mentoring philosophy align with what the student is looking for. For example, if you are a hands-on professor, make sure the student wants you to be very engaged in their research. Think, “Am I the best type of professor for them?” Provide them with the contact information for all your current and recent graduate students, so they can ask the students about the good, the bad, and the ugly of working with you. This helps the potential student know what he or she may get into.
2. Within the first two weeks of starting, have students bring in three job descriptions of what they think will be their perfect job upon graduation. Acknowledge that the minimum qualification for these jobs is the degree they are seeking, and then bullet point all of the preferred or additional qualifications that the students will need to be competitive and create a game plan for how they can acquire each qualification before they graduate. Have students check in every three to four weeks on how they are progressing towards these preferred or additional qualifications.
3. Encourage your more experienced graduate students to mentor newer students. This provides a group mentality and a safe place to ask questions that they may not bring to you as their advisor.
4. For Ph.D. and M.S. students on funded projects, have them identify one aspect of the research project they are interested in. They have to really like and be invested in at least one aspect of their research project because this will help them write their thesis or dissertation. Experience proves that students will not write or procrastinate writing about what they are not interested in.
5. Early on in their first semester ask them if they are interested in receiving any awards or scholarships. If they are, have them research the qualifications for the award and the due date for the applications, so that you both can create a plan on how to submit a competitive packet for the following year.

## **Appendix B. Example Mentor-Mentee Compacts**

One strategy for setting expectations and improving communication with your graduate students is to agree to a mentor-mentee compact. The graduate school encourages such compacts and provides examples on their website. Two of these examples are appended below.

# Mentor-Mentee Compact

*Adapted from the UMN CTSA Mentor-Mentee Contract*

**Instructions:** Mentors and scholars are encouraged to complete this two-page compact, designed to help facilitate the discussion of expectations and goals. We also encourage you to refer to the program expectations as you work through this form. **Step 1)** The mentor and scholar should electronically fill out their respective columns **Step 2)** Set up a meeting with your scholar to discuss the compact **Step 3)** Work together to create a final compact **Step 4)** Mentor and Scholar both sign the compact

<b>Scholar Name:</b>	<b>Mentor Name:</b>
<b>Goals of Scholar</b>	<b>Goals of Mentor</b>
<p><b>Describe your goals for this relationship</b>            Examples: new research skills, training/career advice, authorship on publications, networking with other experienced researchers, recommendations for future training or employment positions</p>	<p><b>Describe your goals for this relationship</b></p>
<b>Expectations of Scholar   <i>Education and Training</i></b>	<b>Expectations of Mentor   <i>Education and Training</i></b>
<p><b>Describe any additional education and training you need for your research development</b>            Examples: conferences, Grand Rounds, protocol specific trainings, seminars, lab meetings, etc.</p>	<p><b>Describe how you will assist the scholar with obtaining additional education and training for research development outside of the CTSI Program</b></p>
<b>Expectations of Scholar   <i>Research</i></b>	<b>Expectations of Mentor   <i>Research</i></b>

**Describe your specific research expectations**

Focus on the following:

- Interactions with your mentor and your research team, including the nature and frequency of meetings
- Major research milestones, such as protocol development and approval, completion of specific experiments or analyses, presentations and abstracts (including plans for CTSI Poster Session), plans for a future independent project
- Support you will need to complete your project (time, materials, software, access to equipment, consultation with experts in methodology or statistics)
- Dissemination Plan (travel to present findings, CTSI Poster Session, community forums)

**Describe your goals for this relationship. Relate your goals to your research career.**

Focus on the following:

- Interactions with the scholar and the research team, including the nature and frequency of meetings.
- Major research milestones, such as protocol development and approval, completion of specific experiments or analyses, presentations and abstracts (including plans for CTSI Poster Session), plans for a future independent project, including the support you will provide
- Dissemination Plan (Scholar's travel to present findings, CTSI Poster Session, community forums)

**Expectations of Scholar | *Academic Skills***

**Expectations of Mentor | *Academic Skills***

<p><b>Describe the academic skills you need to develop</b>  Examples: ethics in research, critical thinking, evaluating the scientific literature, interpreting results, writing an abstract or paper, presenting results, leadership</p>	<p><b>Describe how you will assist the scholar with developing his/her academic skills</b>  Examples: ethics in research, critical thinking, evaluating the scientific literature, interpreting results, writing an abstract or paper, presenting results, leadership</p>
<p><b>Expectations of Scholar   <i>Career Development</i></b></p>	<p><b>Expectations of Mentor   <i>Career Development</i></b></p>
<p><b>What career path options are you considering? What might help advance you to those paths?</b>  Examples: graduate school, health care career, research career in academia/private industry/other setting)?</p>	<p><b>Describe how you will support the scholar's career development, exploration and preparation</b></p>
<p><b>Scholar Communication/Norms</b></p>	<p><b>Mentor Communications/Norms</b></p>
<p><b>What questions do you have about the norms for this research group or setting (i.e. communication methods, addressing concerns, requesting meetings)?</b></p>	<p><b>What norms are specific to your research group or setting (i.e. communication methods, addressing concerns, requesting meetings)?</b></p>
<p><b>Scholar Signature and Date</b></p>	<p><b>Mentor Signature and Date</b></p>



**MENTOR-MENTEE COMPACT**  
**adapted from UAB**

This compact is intended to serve as a guideline to facilitate communications between a trainee (mentee) and his/her mentors. It is suggested that the document be thoroughly reviewed and completed by the mentee and his/her mentor individually, and then jointly review and discuss each person's answers in order to reach an agreement. The mentee should re-write the agreed upon answers before the contract is signed and dated by him/her and each mentor. The mentee is responsible for keeping the compact and reviewing/updating it as necessary.

- 1. What type of assistance does the mentee want from the mentor in achieving their career goals over the next 1-3 years? Where does the mentee hope their career will have taken them in five years?

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- 2. What expectations do the mentor(s) have of the mentee?

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- 3. What expectations does the mentee have of the mentors?

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- 4. How often will you meet?

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5. When and where will you meet?

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6. For how long?

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7. Who will be responsible for scheduling the meetings?

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8. What will meeting topics include?

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9. What will be the ground rules for discussions? (E.g., confidentiality, openness, candor, truthfulness, etc.)

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10. If problems arise, how will they be resolved?

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11. Any concerns the mentee wants discussed and resolved?

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12. Any concerns the mentors want discussed and resolved?

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13. How will you know when the mentoring relationship has served its purpose and needs to be terminated?

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14. We have agreed that our initial meetings will focus on these three topics:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

15. Any additional areas/issues you want to discuss and agree to?

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Mentee Signature

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Date

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Mentor Signature

\_\_\_\_\_  
Date

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Mentor Signature

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Date