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Role of Facilitators

- **Make it safe:** Take time to tell the group members that the seminar is a safe place to be honest about their ideas and feelings. Everyone’s ideas are worth hearing.

- **Keep it constructive and positive:** Remind members of your group to keep things positive and constructive. Ask the group how they want to deal with negativity and pointless venting. Remind them that the seminar is about working together to learn, not complaining about the current situation or discounting the ideas of others in the interest of a personal agenda.

- **Make the discussion functional:** At the start of each session, explain the goals of the session to the group. Try to keep the group on task without rushing them. If the conversation begins to move beyond the main topic, bring the discussion back to the main theme of the session.

- **Give members of the group functional roles and responsibilities:** Assign or ask for volunteers to take notes, keep track of time, and report out in the larger group at the end of the session. Functional roles help keep participants engaged.

- **Give all participants a voice:** In a group, there are likely to be issues of intimidation and power dynamics that can play out in ways that allow certain members of the group to dominate and others to remain silent. At the start of the conversation, mention that the group is mixed by design, and point out that a diversity of perspectives is an essential part of the process. Remind group members to respect all levels of experience. It’s important that everyone’s voice is heard!
General Notes on Facilitating a Group*

Each group will take on its own feel and personality based on the people in the group, the facilitator’s approach, and a whole host of external factors beyond your control. It helps if you adopt a “no fault” clause that states that if a group is not working well, it is through no fault of a single individual, but rather a set of circumstances. It’s hard to not take it personally if someone drops out or if a group doesn’t function well, but remember, you are just one part of the whole dynamic. Remember, you are a facilitator, not a teacher; and the people enrolled in the seminar are participants, not students.

It also helps if you are able to release your expectations for how a meeting or group “should” go, and instead focus on the core aspects of the process. Your role as facilitator is to be intentional and explicit while remaining flexible and not overly prescriptive. You can only do so much as a facilitator – to a large extent it is up to the participants to take ownership of their own learning, especially since this seminar is designed for adults who already have advanced degrees. Individual ownership, self-reflection, and shared discovery and learning are where the deepest learning will occur for this particular type of program.

As challenges and normal group dynamics surface, the group will look to you to “fix” the problem. But part of your role is to help others see that they are responsible for the “fixing” also. You can help them realize this by holding on tightly to the following core ideas of group dynamics (and periodically reminding the team of them):

- Respectful interactions are essential (listening, non-judging, non-dominating, genuine questioning, etc.) are a must.
- Relevant tangents that tie back to central topic/issue/question are fine, but don’t let them derail the central purpose of the discussion.
- You need to keep moving ahead, but there is no need to push the schedule if it seems the group needs time to reflect or slow down. (If you slow down or skip something, you can anticipate that participants will feel as if they are “behind” or missing out, so reassure them this is normal and the initial schedule is only a guide and there will be time to revisit topics if needed.)
- If you try something and it doesn’t go well, don’t abandon it right away. Step back and think about what went wrong, talk to the group, learn from it and try it again. You may need to try something a couple times to get the group warmed up to something new.
- Discomfort and silence are ok, but with a clearly stated context and purpose. Silence may seem like a waste of time in meetings, but it gives people a chance to think, digest, and reflect. Allow for a few silent breaks before, during, and at the end of a meeting.
- Make it easy, rewarding, and fun for people to participate, and encourage others to do the same for each other. Simple things like friendly reminders of meetings, coffee, and follow-up calls to check in with someone if they miss a meeting, can send the message that you care, and make it easier to participate.

* Adapted from the Creating a Collaborative Learning Guidebook, Center for the Integration of Research, Teaching, and Learning http://www.cirtl.net/CCLGuidebook.pdf
Group Dynamics:
Suggestions for How to Handle Challenges

What do I do when no one talks?

- Have everyone write an idea, thought, or answer to a question on a piece of paper and toss it in the middle of the table. Each participant then draws a piece of paper from the center of the table (excluding their own) and reads it out loud. All ideas are read out loud before any open discussion begins.
- Have participants discuss a topic in pairs for 3-5 minutes before opening the discussion to the larger group.

What do I do when one person is dominating the conversation?

- Use a “talking stone” to guide the discussion. Participants may only talk when holding the stone. Each person in the group is given a chance to speak before anyone else can have a second turn with the stone. Participants may pass if they choose not to talk. Importantly, each person holding the stone should share his or her own ideas and resist responding to another person’s ideas. Generally once everyone has a chance to speak, the group can move into open discussion without the stone.
- Use the “Constructive/ Destructive Group Behaviors Exercise. Each participant chooses their most constructive and destructive group behavior from a list (see following page). Each person writes the two behaviors on the back of their table tent. Each participant then shares their choice with the larger group and explains why she chose those behaviors.

What do I do when the group members direct all their questions and comments to me, instead of their fellow group members?

- Each time a group member talks to you, move your eye contact to someone else in the group to help the speaker direct his or her attention elsewhere.
- Ask the participants for help in resolving one of your mentoring challenges. For example, ask them for advice on how to deal with an apathetic undergraduate researcher. This helps the group members stop looking to you for the right answers and redirects the problem-solving and discussion to the entire group.

What do I do when a certain person never talks?

- Have a different participant initiate each day’s discussion so that different people have the chance to speak first during the week.
- Assign participants in the group different roles in a scenario or case study and ask them to consider the case from a certain perspective. Ask the participants to discuss the case in the larger group from the various perspectives. For example, some participants could consider the perspective of the mentee while others consider the perspective of the mentor.
- Try some smaller group discussions (2-3 participants per group) as the person may feel more comfortable talking in the smaller group.

What do I do when the group gets off topic?

- Have everyone write for 3 minutes about the ideas they want to share on a given topic. This short writing time will help participants collect their ideas and decide what thoughts they would most like to share with the group so they can focus on that point.
- Ask someone to take notes and recap the discussion at the half-way and end-point of the session to keep the conversation focused.
Constructive and Destructive Group Behaviors*

**Constructive Group Behaviors**

*Cooperating:* Is interested in the views and perspectives of the other group members and is willing to adapt for the good of the group.

*Clarifying:* Makes issues clear for the group by listening, summarizing and focusing discussions.

*Inspiring:* Enlivens the group, encourages participation and progress.

*Harmonizing:* Encourages group cohesion and collaboration. For example, uses humor as a relief after a particularly difficult discussion.

*Risk Taking:* Is willing to risk possible personal loss or embarrassment for the group or project success.

*Process Checking:* Questions the group on process issues such as agenda, time frames, discussion topics, decision methods, use of information, etc.

**Destructive Group Behaviors**

*Dominating:* Takes much of meeting time expressing self views and opinions. Tries to take control by use of power, time, etc.

*Rushing:* Encourages the group to move on before task is complete. Gets "tired" of listening to others and working as a group.

*Withdrawing:* Removes self from discussions or decision making. Refuses to participate.

*Discounting:* Disregards or minimizes group or individual ideas or suggestions. Severe discounting behavior includes insults, which are often in the form of jokes.

*Digressing:* Rambles, tells stories, and takes group away from primary purpose.

*Blocking:* Impedes group progress by obstructing all ideas and suggestions. "That will never work because…"

# Multidisciplinary Research Mentor Training Seminar for Faculty
## Mentors Syllabus

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<td>Week 1</td>
<td>Exploring Experiences of Being a Mentee &lt;br&gt;Seminar Process and Logistics &lt;br&gt;Developing Mentoring Compacts &lt;br&gt;Getting to Know Your Mentee</td>
<td>Draft a written compact agreement that you could give to your mentees/postdocs when they first start in the lab. It should outline your expectations for them as students or researchers.</td>
<td>National Academy of Sciences, (1997). “What is a Mentor?”</td>
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<td>Week 2</td>
<td>Introductions &amp; Check-in &lt;br&gt;Review seminar logistics &lt;br&gt;Case Study: Expectations &lt;br&gt;Communication and establishing expectations check-in</td>
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<td>Week 3</td>
<td>Assessing Understanding &amp; Fostering Independence</td>
<td>A description of your mentoring philosophy</td>
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<td>Week 4</td>
<td>Mentoring Challenges and Solutions</td>
<td>Bring in copies of your own case study to share with the class (or be prepared to present one verbally)</td>
<td>Handelsman, Pfund, Miller Lauffer, &amp; Pribbenow, (2005). “Mentoring Learned, Not Taught.”</td>
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<td>Week 6</td>
<td>Dealing with Ethics</td>
<td>Look over the general ethics guidelines for your discipline Be prepared to talk about how they apply to you and your work. Bring a copy of them to class.</td>
<td>Cratcher, B.N., (2007). “Mentoring across cultures.”</td>
</tr>
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<td>Week 8</td>
<td>Developing a Mentoring Philosophy</td>
<td>Revised mentoring philosophy or mentoring compact</td>
<td></td>
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Readings


Multidisciplinary Research Mentor Training Seminar
Session 1
Getting Started and Project Design

Objectives
Mentors will:
• Explore their perceptions of the research mentoring relationship in their own and across disciplines
• Become oriented to the process and expectations for the seminar sessions

Core Activities
Exploring Experiences of Being a Mentee
Seminar Process and Logistics
Developing Mentoring Compacts
Getting to Know Your Mentee

Participant Materials
Table tents and markers
Copies of syllabus
Copies of examples of research mentoring compact agreements

Assignments for Next Session
Write a first draft of a mentoring agreement that outlines expectations for graduate students and post-docs working in your lab.
Read “What is a Mentor?” (National Academy of Sciences, 1997)
FACILITATOR NOTES

Core Activities

- Exploring the Experience of Being a Mentee (15 min)
  - **ASK:** Ask participants to reflect upon an experience they have had as a research mentee.
    - What did the experience teach you about doing research in your discipline?
    - What did you think about your mentor then? What do you think about your mentor now?
  - Have participants introduce themselves around the room and describe their experience of being a research mentee.

- Introduction of Seminar and Logistics (15 min)
  - **TELL:** Provide participants with details about the seminar process and logistics.
    - Expectations for attendance and participation
    - Plans for where seminar will meet. Encourage meetings at different sites to visit participants’ labs
    - How readings and assignments will be distributed and collected
    - Confidentiality is important to the seminar and everything discussed in seminar or on the course website will remain confidential. Be particularly mindful of creating a safe and confidential environment for junior faculty who are untenured.
    - How to document participation in the seminar for funding agencies and future grant applications
    - The seminar is designed for mentors actively working with a mentee. If that’s not the case, participants can use their past experience in the discussions and adapt the assignments to plan for future mentoring relationships.

- Large Group Discussion about goals for the seminar (15 min)
  - **ASK:** What are the personal and professional goals people would like to achieve through participation in the seminar? Are there any collective goals for the group?
  - **WRITE:** Make sure to write the ideas generated on the board or a flip chart
**Wrap-up**

Assignments for next week (5 min)

- Write a first draft of a mentoring compact that you could distribute to graduate students and pos-docs working in your lab.
- Reading: “What Is a Mentor?” and example mentor-mentee compacts.

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**Reflection and Notes**
Welcome to the McMahon Lab!

The broad goals of my research program
As part of my job as a professor, I am expected to write grants and initiate research that will make tangible contributions to science, the academic community, and to society. You will be helping me carry out this research. It is imperative that we carry out good scientific method, and conduct ourselves in an ethical way. We must always keep in mind that the ultimate goal of our research is publication in scientific journals. Dissemination of the knowledge we gain by conducting experiments is critical to the advancement of our field. It is also important that we present our work at scientific meetings, so that other researchers are aware of our progress.

What I expect from you
Another part of my job as a professor is to train and advise students. I must contribute to your professional development and progress in your degree. I will help you set goals and hopefully achieve them. However, I cannot do the work for you. In general, I expect you to:

- Learn how to plan, design, and conduct high quality scientific research
- Learn how to present and document your scientific findings
- Be honest, ethical, and enthusiastic
- Be engaged within the research group and at least one program on campus
- Work hard – don’t give up!
- Treat your lab mates, lab funds, equipment, and microbes with respect
- Take advantage of professional development opportunities
- Obtain your degree

Getting the science done
I expect you to make steady progress towards your research goals at all times. Part of that process includes being active in setting short and medium term goals including milestone dates and deliverables. During the academic semester, performing well in your courses is certainly important, but should not cause a complete lack of productivity. This is your primary responsibility as a research assistant and the following guidelines are intended to support this responsibility.

An important part of conducting scientific research is keeping pace with the work of other scientists. Learning to use the literature review tools to locate relevant articles and then reading those articles will not only provide you with valuable research skills, but will also guide your research to ensure it can be an original contributions. Finally, reading other people’s published work will lead to improved writing skills. A goal of reading one publication per month is a good minimum standard. We will periodically run journal clubs to help achieve this goal, but journal club should not be a substitute for reading on your own within your specific area of research.

Communicating your work to others
Journal publications are the most important way to share your knowledge and creativity with the rest of the scientific community. Students pursuing a Masters degree will be expected to author
or make major contributions to at least one journal paper submission. Students pursuing a doctoral degree will be expected to author at least two journal papers submissions.

Conferences are another important venue for sharing your findings with others. Although the availability of travel funding varies over time, I encourage you to submit your work for presentation at least one conference per year. Travel fellowships are available through the Environmental Engineering program and the University if grant money is not available. I will help you identify and apply for these opportunities.

Collaborations within the group and beyond
As part of our collaborations with the Center for Limnology and other research groups, you will often be using equipment that does not belong to our lab. I ask that you respect this equipment and treat it even more carefully than our own equipment. Always return it as soon as possible in the same condition you found it. If something breaks, tell me right away so that we can arrange to fix or replace it. Don’t panic over broken equipment. Mistakes happen. But it is not acceptable to return something broken or damaged without taking the steps necessary to fix it.

I also expect you to respect your fellow students, and the staff in the department. Part of your professional development is to learn how to work with others and resolve conflicts. Again, I can help you with this. If you feel that you have been treated unfairly by another student or a staff member, please come to me to help resolve the conflict.

Obtaining your degree
It is your responsibility to determine the requirements for your individual graduate program. Depending on the program, this information is available in student handbooks, on websites, or through departmental student services staff. I can help you find these resources but you must take the initiative to make sure all requirements are met on time in order to advance in your degree (e.g. for preliminary exams).

Professional development
UW-Madison has outstanding resources in place to support professional development for students. I expect you to take full advantage of these resources, since part of becoming a successful engineer or scientist involves more than just doing academic research. You are expected to make continued progress in your development as a teacher, as an ambassador to the general public representing the University and your discipline, with respect to your networking skills, and as an engaged member of broader professional organizations. The Graduate School has a regular seminar series related to professional development. The Delta Program offers formalized training in the integration of research, teaching, and learning. All graduate programs require attendance at a weekly seminar. Various organizations on campus engage in science outreach and informal education activities. Attendance at conferences and workshops will also provide professional development opportunities. When you attend a conference, I expect you to seek out these opportunities to make the most of your attendance. You should become a member of one or more professional societies such as the Water Environment Federation, the American Society for Microbiology, or the American Society for Limnology and Oceanography. For more information about professional development opportunities, check our lab website and talk with me for guidance.
Vacation
Your research assistant appointment does not include any formal vacation, sick, holiday or other leave. That said, you are permitted to take a reasonable amount of time for all of these purposes. Approximately two weeks of vacation per year is considered reasonable. As a professional, you should consider how much additional vacation time will interrupt your ability to make progress with your research.

What you should expect from me
You should expect me to be available for regular meetings (once a week or every other week). At these meetings we will talk about what you have done lately in the lab, or what you have read. I will do my best to answer questions that you have, and help you solve problems that you experience in your research. Research is not easy. There are many pitfalls and many failures. You will quickly learn that most of your experiments will not work. That is perfectly normal. It is my responsibility to be your cheer-leader and help keep you excited about your work. Only with perseverance will you generate high quality results.

You should expect me to help you learn to present your work. I will probably ask you to prepare a poster or a presentation for at least one scientific meeting while you are in my research group (in reality, this ends up being at least one per year). It will be my responsibility to help you put it together and practice presenting it. Similarly, I will help you learn to write about your research, mainly by providing feedback on drafts of your thesis and papers.

You should expect me to be your advocate. If you have a problem, come and see me. I will do the best I can to help you solve it.

My primary role in the lab is to write grants and bring in money so that you can do your research with as much freedom and flexibility as possible. I serve as an advisor in your research, offering guidance and advice. Together we will design a research project tailored to your interests and the objectives tied to the funding that is supporting your work (if applicable). I will also support you in your professional development activities.

Yearly evaluation
Each year we will sit down to discuss progress and goals. At that time, you should remember to tell me if you are unhappy with any aspect of your experience as a graduate student here. Remember that I am your advocate, as well as your advisor. I will be able to help you with any problems you might have with other students, professors, or staff.

Similarly, we should discuss any concerns that you have with respect to my role as your advisor. If you feel that you need more guidance, tell me. If you feel that I am interfering too much with your work, tell me. If you would like to meet with me more often, tell me. At the same time, I will tell you if I am satisfied with your progress, and if I think you are on track to graduate by your target date. It will be my responsibility to explain to you any deficiencies, so that you can take steps to fix them. This will be a good time for us to take care of any issues before they become major problems.

I look forward to working with you!
WELCOME TO THE INGHAM LAB

Our lab conducts applied research designed to aid small and very small meat processors with HACCP implementation and process validation. Our work in the area of meat safety supports the 300 (+) small meat processors located in the state of Wisconsin; we also support meat processors from other states who look to the University of Wisconsin for scientific decision making within a HACCP system. At any time, our lab group is generally composed of academic staff, graduate students, and undergraduate researchers – all important members of our research group. **EXPECTATIONS** - In order for our group to function effectively, I will expect each of you to: **Be a team player** – This means being respectful of the workspace and efforts of everyone in the lab. Everyone has a lab ‘job,’ this might be autoclaving lab coats or mopping the floor. You are expected to do your part to keep the lab functioning. There are times when the equipment that we have available will be stretched thin; we’ll all have to do our best to make sure everyone is accommodated. Mistakes happen and equipment stops working. It’s everyone’s responsibility to notify me when something needs fixing. You are expected to participate in all-lab meetings and to support others in the lab through shared insight. **Develop strong research skills** – One of the true advantages of working at a world-class university is the chance to develop strong research skills. I expect that everyone will learn how to plan, design, and conduct high quality scientific research. You will all be given the chance to present your work at meetings and seminars, and you will be challenged to prepare scientific articles that effectively present your work to others in the field. You will join at least one scientific organization and keep up with the literature so that you can have a hand in guiding your own research. The ‘currency’ of a campus such as this is published papers, they are the engine that drives a lot of what we do and you will be pushed to publish. Papers will be published as you move through your degree program, not only at the end. At the beginning, preparing manuscripts for publication will be a joint effort (I may write as much of the article as you do); as you move towards the end of your program, you will be expected to take a lead role in authoring scientific papers. There may be times when you will be asked to help another student with their project; or to mentor/train another student. This is good experience! Undergraduates working in the lab are expected to contribute to the writing of manuscripts. If you are paid, your hourly rate will be tied to your contribution to a finished paper. **Work to meet deadlines** – Lab work and progress will be managed by deadlines. These deadlines can be managed in a number of ways, but everyone is expected to work their best to meet/manage those deadlines. Deadlines will be set at one-on-one meetings at the beginning of each term. These deadlines will be mutually agreed upon. For graduate students, there is to be a balance between time spent in class and time spent on research. As long as you are meeting expectations, you can largely set your own schedule. Graduate students can expect to work an average of 50 hours per week in the lab/office at work; post-docs and staff at least 40 hours per week. All travel plans, even at the major holidays (Christmas), should be OK’d before any firm plans are made. **Communicate clearly** – Everyone is new to a process/procedure at some point in their career. Questions will be gladly addressed up front. If you have a style of communication that you prefer, email versus a weekly meeting, please let me know! No single style is expected to work for everyone; no one style is expected to work all the time. Everyone is expected to respond promptly to emails from anyone in the group, to show up on-time for meetings, and to be prepared to take notes.
WHAT YOU CAN EXPECT FROM ME - I will work tirelessly for the good of the lab group, and have the success of the group as a top priority. Specific things that you can expect from me:

You should expect me to be available for regular meetings and informal conversations. At our scheduled one-on-one meetings (every week or every other week) we will address questions or concerns that you have. It is my responsibility to help you succeed and I can do that best if I know what you are doing! For regular meetings, you are asked to share research data roughly 24 hours in advance of a meeting so that I have time to look at it and prepare. If you need to miss a meeting, it is your responsibility to reschedule; I will show you the same courtesy. I will generally be available from 7 am until 4 pm daily; and often will be in at work on the weekends. Email is a great way to communicate with me! If my door is open, feel free to stop by. I will be happy to see you and do what I can to help.

You can expect me to do my best to promote you (as a scientist) and your work. I will do my best to help you in your professional development and in your efforts to communicate your work. I will work tirelessly to adequately fund our program and to disseminate its results. I will do my best to provide timely review of your research. My primary role is to bring in grants, largely based on the work that you do!, and to steward our resources so that we all benefit to the maximum extend from our joint efforts.

You can expect me to try my best to be understanding of your unique situation. Each student comes from a slightly different background and has a slightly different situation. I will do my best to be understanding of your individual circumstances. It will help if you keep me informed and remember that graduate school is a job with commensurate expectations.
Example from a UW-Madison graduate student

mentor Expectations for all undergraduate mentees:

1. **Send me weekly e-mail updates by Fridays at 5 pm** describing briefly what you've been working on, what you plan to do the following week, and any questions or troubles you had. Important things to include: project you've worked on, broken equipment, storage/equip conflicts, if your data look weird.

2. **Attend lab meeting.** The entire lab assembles approximately once a week to discuss our research. Generally, the person leading lab meeting will distribute reading materials in advance. You should read these materials and come prepared to participate actively in the discussion.

3. **Be organized.** There is a lot of overlap in projects, and it is essential that you keep track of all of the samples in the way that I specify. This includes updating the data spreadsheets and lab notebooks immediately.

4. **Read background information and protocols about our projects, and about the McMahon lab research.** This includes the protocol handout, the Wiki, and related journal articles from the lab that I’ve suggested. I’d love to discuss any journal article or protocol, so just say the word and we’ll grab some coffee and chat.

5. **Be consistent with your lab schedule.** E-mail/call me if you are going to be Very Late or unable to make your scheduled lab time.

6. **Be independent.** I am periodically away, and I expect you to get things done well without me. Ask questions when I am around, but don't be afraid to try to do detective work on your own if I am not. We have a helpful, experienced lab so know that folks other than me may be excellent resources.

7. **Respect the lab area and your colleagues.** Keep it neat and ask if you have questions on equipment use, cleaning, etc. It is very important that you tell me if a piece of equipment breaks. Do not be worried that I will be angry. These things happen all the time in labs and the important thing is that I know it is broken and can arrange to have it fixed.

8. **Let me know if you need anything from me as a mentor, or if you have questions.** Be up front and I will do the same.

9. **I have an “open door” policy.** Let me know if you are having troubles or concerns that you want to talk about with me, work related or not. My phone number is XXXXXX.