Welcome to the Magmatic and Planetary Processes Research Group! Glad to have you on board. Most students undertaking research (and starting graduate school) wonder what is expected of them, and what they can expect from their adviser. Experiences can differ for each student because expectations and mentoring styles vary from one adviser to the next. This document outlines what I expect of students in my research group and what you can expect of me. Please read this document carefully and let me know if you have any questions.

Your reasons for undertaking research with me and my research group will vary and thus will affect how we tailor your research experience here to best meet your overall goals. The main part of my role is to act as a mentor and provide direction and advice on your research project. I can provide assistance with project design, a literature search for background information, lab procedures, data analysis, and writing. I will also work with you on giving various types of informal and formal presentations of your work (both written and oral). One of my goals for your experience here will be to train you on how to conduct and communicate science, along with how to carry out your specific project. This will also include communicating to you opportunities for professional development (e.g. internships, workshops, conferences, grant writing).

**Time: Mine and Yours**

The time commitment to research tends to be one of the most important issues for students undertaking research, and mentors. As long as I see progress towards your goals at a reasonable pace, I will not give much oversight on how you spend your time. Your presence in my research group is dependent upon what I deem to be satisfactory progress through the program, within University and Departmental guidelines. Therefore, it is important that you learn how to budget your time here, so that you can finish your research project in a timely manner (this will be different for everyone!). Time-management is a skill that will last a lifetime.

The ratio of time spent teaching (if you are a graduate student on a GA or an undergraduate in a UA position), taking classes (undergraduate and graduate students), and conducting research (everyone!) will change and will be different for everyone. I expect that you will take vacation (because we all need time to time to relax) and take advantage of the flexibility of the academic environment **within reason**. I also expect you to be aware that there may be times when more than a 40-hour week is necessary to complete all of your work in a timely manner and to meet specific deadlines. I regularly work 80-100 hours a week and am usually contactable from 7AM to 10PM, 7 days of the week. That being stated, please do not expect me to reply to your emails instantaneously. I aim to respond to all emails (from students, colleagues, collaborators) in a timely manner. I also do not expect you to work an 80-100 hour work week! Again, as long as I see progress of your research, I will not check-in on how you are spending your time. I therefore strongly encourage you to take responsibility for your own progression through your academic program. Continual progression towards your final research product will help eliminate last minute panic.

This semester my classes are on a TR schedule. I am teaching GLG 357 (Igneous and Metamorphic Petrology). The class will meet from 08.30-09.50 TR, with lab classes 1.15-4.05pm also TR. My office hours are: 1.15-4.05pm on Thursdays, in rm. 239. Remember that you can also take advantage of my office hours. As students undertaking research with me, feel free to drop in and see me during this time. I ask you to please try to give me some time for me to work on my research on Mondays and Fridays. I, like you, also need time to effectively conduct my research, and every interruption costs me several minutes of “refocusing” time. There will also be days where I will work off campus and times when I have meetings outside of the Geology department, so if you need to reach me and I’m not in the office, email me (mcleodcl@miamioh.edu), or call me at 832-270-3354.
If you have not already done so, please email me your class schedule so that I have an electronic version of it.

**Research and progress reporting**

**Undergraduate students** – I will work with each of you to discuss your motivation behind conducting research and the extent to which you would like to work towards publishing your work in a peer-reviewed journal.

**Masters students** – I expect you to create a research product of sufficient content and quality for at least one professional journal publication. I expect a solid draft of the publication to be completed before you graduate. Journal articles are significantly different than a thesis in some respects and I will assist in any way I can to assure the publication process is successful. Authorship on these manuscripts will be dependent upon the amount of effort that each author puts into the research AND writing of the article.

**PhD students** - I expect PhD students to complete three publishable articles before graduation. This means at least 2 submitted/accepted and one ready for submission. Authorship on these manuscripts will be dependent upon the amount of effort that each author puts into the research AND writing of the article.

**All students** - It is important that you take detailed research notes, these will be vital for completing your research project and useful to me after you leave. If your work has not been published before you leave here, I may ask that you leave your notes with me until the publication process is complete.

The research we conduct in this group is primarily funded by government dollars, university funds allocated to me (and students), and is therefore ultimately public intellectual property. However, until the work is published, consider the research you generate to be the intellectual property of this research group and Miami University. Consult me before sharing data, models, ideas, and results with others. It is perfectly acceptable to engage in intellectual discussions about your research with faculty, other researchers, and students; you will likely find this a very productive activity.

Be prepared to write several outlines with timelines and goals. This is one of my primary tools to determine that you are on track and have a clear plan for your research. The length and detail I will ask for will likely vary depending upon your stage in the program.

I believe that all authors of a paper ought to have contributed substantially to it intellectually and ought to be able to defend it in front of a scientific audience in that field. First authorship requires that you put the majority of the intellectual effort and completed the project, including the writing! If I or another student played the major role in conducting the experiments, analysis, and/or writing the manuscript, or if someone else had to come in to clean up and finish a project that you couldn’t, I or they will probably be the first author of the manuscript.

**Labs and Resources**

Many of you, if not all of you, will utilize at least one of the following lab spaces: Rm. 239 (Mineralogy and Petrology Teaching Lab), Rm 146 (Geochemistry Research Lab), Rm. 148 (Mineral Separation Laboratory), The Elemental and Isotope Geochemistry Clean Lab, and the Mass Spectrometry Lab, and the rock preparation labs. Please pay attention to the points of contact listed outside of these laboratories. We are extremely fortunate here in this department to have 2 full time laboratory managers – Dr. Marion Lytle and Dave Kuentz. As your research progresses, I will work to introduce you to Marion and/or Dave should your research require use of that lab spaces. Both Marion and Dave have extensive training and experience and I ask that you respect their expertise and laboratory spaces.

**Safety always comes first.** Always know the safety requirements of the work that you are doing and wear appropriate protective gear for the project that you are undertaking (eye protection, gloves, lab coat and close-toe shoes are generally appropriate for lab work, for example).
- Keep a detailed notebook of ALL of your research activities. It is vital that you keep detailed lab and field notes. Although it may seem redundant or unimportant at times, it will help you during project, it will help me help you interpret your results, and it will help me use your work to help the next student after you leave. (At least once a month I will refer to notes I made in my lab or field notebooks years ago).
- I am confident that you will use our equipment with care and address any troublesome or broken equipment. I understand that equipment breaks, even when used gently and correctly. This is part of research. Always address equipment that is broken or that you suspect isn’t working properly. By ‘address’, I mean organize getting the equipment repaired with advice from me and/or Marion and/or Dave. We may guide you to repair it yourself or to arrange for a professional repair.
- If other students or faculty want to borrow things from the lab: (1) if it is a common item, leave a note with the person’s name and the date it was borrowed in the place of the item or (2) if it is an expensive or difficult-to-replace item, consult with me and/or Marion and/or Dave before lending it out.
- Safeguard the equipment in our lab spaces by locking all the doors every night and during other extended periods (hours) when the lab will be empty.

**Group Meetings**
Once a week, for one hour, we will have a group meeting, during which you will give a brief summary of the research you’ve accomplished during the previous week. During this time you will also set goals for the week ahead, and I will work to ensure deadlines are clearly communicated (conference abstract deadlines for example). This is an effective way for all of us to keep informed of the work everyone is doing. During these meetings I ask that you respect each other’s time and allow each other the time to disseminate what they are doing, you will get your turn!

**Communication**
Any constructive relationship requires communication to remain strong. My relationship with you is no different. If you’re having difficulties, if you need assistance, TALK TO ME! I won’t know if something’s wrong with the way we’re running things unless you let me know. Let’s work to make this a great time for all of us by keeping the communication open. This also extends to the research group, particularly if you are utilizing the same research space (mineral separation lab, microscopes for example). I ask that you respect each other’s time and research by staying in communication with each other as well.

**Professionalism:**
- Treat others and their scientific ideas with respect and tolerance. It is ok to have a professional disagreement, but do not let the disagreement get personal and always recognize the other person’s right to have their own opinion.
- Take responsibility for your own actions and duties.
- Be willing to ask questions when you don’t know the answer.
- Help other students when they ask for it.
- Criticism can be a sensitive issue. I will try to provide you with constructive criticism and I expect you to do the same for others.

**Pet peeves that you should know about**
- Wasting resources (including your time and my time!) Particularly, spending time, intellectual energy and physical resources on work that you do not complete.
- When I (or Marion, or Dave, or another researcher) can’t find the supplies that we need in the lab to do something because someone used them up and didn’t replace them (or tell somebody that something needed replaced).
- When I find broken equipment put back on the shelf.
- If you lack initiative and/or a willingness to learn to solve problems to the extent you can.
I don’t read the ‘zero’ draft – you do. If you haven’t read it, don’t expect me to.

Please don’t make the same mistake twice – show me that you are learning from your mistakes.

Apply the feedback that you receive, particularly with writing. If you take a course with me, you will have plenty of opportunities to practice your scientific writing and receive feedback on it. **I fully expect you to transfer that feedback to your manuscript and thesis writing.**

**Ask questions!** **Tell me what you need to succeed, and what is not working for you.** Also, keep in mind that your fellow students are a valuable resource for getting oriented to the graduate program, and my research group, when you are new.

Remember, you are ultimately responsible for the timely and successful completion of your research project, but trying to help you achieve this goal is a one of my highest priorities.

I expect that you will do an excellent job and I hope that this process is fun and intellectually challenging! Everyone here wants to see you succeed.