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Franklin College of Arts and Sciences
Department of Geology

Expectations for Graduate Students

Structural Geology and Geomechanics Group, University of Georgia

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Preamble

This document is written for graduate students working as part to the Structural Geology and Geomechanics (SGG) Group. Many parts of this writing stem from a similar document compiled by Dr. Klimczak's doctoral advisor and from experience with former and current graduate students of this group, who requested and improved this content. By reading this document, students joining our SGG group will agree to and discuss these expectations with Dr. Klimczak. This document is a work in progress and will be constantly updated and improved.

The SGG group

The members of our group are excited about structural geology and tectonic processes on and beyond Earth. We share this excitement in the weekly group meetings, where we learn about current research in the fields of fault mechanics, structural geology, and tectonic geomorphology, from both research carried out by other members of our group as well as from discussions of published works. Any graduate student within our group should be able to state what the other members of the group research. Literature that we are familiar with and regularly read includes but are not limited to the following books and scientific journals:

Books:

- *Fundamentals of Rock Mechanics* by Jaeger, Cook, and Zimmerman; Blackwell Publishing
- *Reservoir Geomechanics* by Zoback; Cambridge University Press
- *Engineering Rock Mass Classifications* by Bieniawski; Wiley
- *Fundamentals of Structural Geology* by Pollard and Fletcher; Cambridge University Press
- *Geologic Fracture Mechanics* by Schultz; Cambridge University Press

Journals:

- *Earth and Planetary Science Letters*
- *Geological Society of America Bulletin*
- *American Association of Petroleum Geologists Bulletin*
- *Journal of Geophysical Research*
- *Geophysical Research Letters*
- *Journal of Structural Geology*
- *International Journal of Rock Mechanics and Mining Sciences*
- *Bulletin of the Seismological Society of America*

Code of conduct

Racism, sexism, and homophobia are unacceptable and won't be tolerated in the SGG group. Members of SGG maintain a respectful and professional attitude toward any member of our society, irrespective of who they are. We treat our UGA support staff with gratitude and don't take their work for granted. We are competitive and strive to be the best in our field, but at the same time are respectful of the scientific work of other researchers. We act as role models for less experienced students and our peers, and support learning nonjudgmentally.

Workload

There is no specific minimum hourly workload expectation, but every student is expected to work as much as it takes to achieve their degree requirements in a timely manner. Degree requirements involve course work, thesis research, and duties pertaining to the graduate assistantship. The workload and research milestones will be discussed and agreed-upon at the beginning of each semester.

Research assistantships require full-time research. Research assistantships must be taken seriously, and can be terminated if the discussed and agreed-upon research objectives are not met in a timely manner. Research assistantships may be awarded for the summer or for any given semester from departmental or external funding.

Teaching assistantships require devoting 18 hours per week toward preparing for, the teaching of, and grading assignments given in the laboratory portion of a geology class within the department. Most SGG members will teach as part of their degree. Thesis research is expected to be carried out in addition to teaching. The research workload for teaching assistants is lower than that for research assistants and will be discussed and established at the beginning of each semester.

Research

There are weekly, 1-hour-long research meetings for each SGG member. SGG members are encouraged to identify and design their own thesis research topic(s). Areas of research may involve any discipline, method, and topic relevant to solve questions in the general fields of structural geology and tectonics.

Conferences: Conference presentations are part of the academic work and are necessary for learning about other research, networking among scientists, and learning to properly communicating our research findings. Students are encouraged to present each of their research topics to the scientific community. Conference funding is not always available within the research group, but departmental and external funding sources should be considered. The members of the SGG group have a track record of being awarded departmental and external travel support. When funding for travel is needed, students should provide information regarding the funding source to Dr. Klimczak in a timely manner, especially if a letter of support is needed from him.

Publications: All SGG members are encouraged to publish their research findings, especially on the Ph.D.-level (see Ph.D. degree minimum expectations). Every publication plan should be discussed with Dr. Klimczak. Research projects of Ph.D. students are considered the intellectual property of the Ph.D. student and they should lead the publication effort, but Dr. Klimczak's co-authorship is expected

if a substantial amount of input was provided. Single-authored papers are the exception but are possible for Ph.D. students. For that, the topic and timeline should be discussed with, and approved by Dr. Klimczak. Research projects of M.S. students may, but are not typically considered the intellectual property of the student. However, M.S.-level students may publish their findings as first author under close guidance and co-authorship by Dr. Klimczak. If M.S. research is agreed-upon to be published by the M.S. student as first author, the timeframe, effort, and level of involvement after graduation must be agreed-upon together with Dr. Klimczak. If the timeframe, effort, and level of involvement with the project after graduation are found insufficient to lead to successful publication, Dr. Klimczak may take over as corresponding and/or first author.

All manuscript drafts will require Dr. Klimczak's approval prior to submission. It is expected that each manuscript draft is prepared to the best of the student's abilities, that the manuscript formatting —exactly following the journal guidelines—is carried out meticulously, and that the manuscript has received proof-reading. If it becomes clear that one or more of these expectations are not met, the publication draft will be sent back without further editing, or for M.S.-level publications the order of authors may be changed.

Once manuscripts are accepted by the journal, it is expected that the corresponding author tracks the progress of the paper and ensures that the paper is published promptly. Uncorrected proofs provided by the journal are expected to be shared with all co-authors, soliciting corrections and proofreading immediately after they become available.

Transparency of research: All members of SGG are encouraged to maintain a fully updated professional web-presence on their student profile on the UGA Geology Department web-page. Members are also expected to keep an updated CV with new additions every semester. Research findings, especially those using big datasets or data products, are encouraged to be made publicly available via journal supplementary files and/or via the SGG GitHub repository.

Degree minimum expectations

M.S. degree guidelines: Students pursuing a M.S. degree have four semesters and one summer to complete their degree requirements. The degree requirements are stated in the graduate handbook and are communicated to new students by the graduate coordinator. It is the student's personal obligation to know about and meet all requirements. At the end of the first semester, a thesis committee will be formed that will meet to evaluate the planned research. For that, each student will provide a brief proposal, and present preliminary research and suggested future research to the committee. In the fourth semester the committee will meet again to assess the outcomes of the research. The research outcomes are to be clearly presented in a written thesis and a departmental thesis defense talk. The research is not expected to, but may lead to a publication in a scientific journal.

Ph.D. degree guidelines: Students pursuing a Ph.D. degree have eight semesters and three summers to complete their degree requirements. The degree requirements are stated in the graduate handbook and are communicated to new students by the graduate coordinator. It is the student's personal obligation to know about and meet all requirements. At the end of the first year (in the second semester), a thesis committee will be formed that will meet to evaluate the planned research. For that, each student will provide a proposal, and present research findings and suggested future research to the committee. In

the second year the committee will meet to assess the Ph.D. student's intellectual and scientific abilities to think, write, and speak on a doctoral level as part of written and oral comprehensive exams. Ph.D. student members of our group are held to high standards. The timeframe and number of questions for the exams will fall within the guidelines of the student handbook, but it can be expected that the amount of questions and time required to answer the questions will be on the upper end of the range that is stated in the graduate handbook. The exam is considered not only a test of the Ph.D. student's knowledge, but also intended to confront and prepare the student with an academic workload under a stressful situation. In the semester of graduation, the committee will meet again to assess the research outcomes. The research outcomes are to be clearly communicated in the form of a written thesis and a departmental thesis defense talk. The thesis is expected to contain a minimum of three related but stand-alone scientific chapters, accompanied by global introduction and conclusion chapters. The three chapters are expected to be suited for publication and two, if not three should be in one of the various stages of publication in a peer-reviewed scientific journal.

Equipment

Every member of SGG is welcome to use any of the SGG equipment. SGG members are expected to treat the equipment with care. Computers are expected to be shut off at the end of the day, unless the research requires overnight or longer computing. If heavy thunderstorms are in the forecast, computers and microscopes are expected to be unplugged to avoid power surge damage from lightning. If equipment breaks or is not properly functioning, please report it to Dr. Klimczak immediately. Replacement for heavily-damaged or lost books is expected. It is expected that SGG members keep computer programs updated, and that it is clearly and timely communicated when more major software updates (e.g., ArcGIS) are due. ESRI, Microsoft office, adobe illustrator, R, ISIS, and Move licenses will be provided to SGG members for use on university computers.