CONTENTS

INTRODUCTION ................................................................. 3
GENERAL INFORMATION ..................................................... 4
DEGREE REQUIREMENTS ..................................................... 6
THESIS REQUIREMENTS ...................................................... 7
MS DEGREE TIMELINE ....................................................... 8
COVER PAGE FOR THESIS ................................................... 9
APPROVAL PAGE FOR THESIS ............................................. 10
MENTORING POLICY .......................................................... 11
FINANCIAL SUPPORT POLICY ............................................ 12
This handbook is intended to help you meet all Departmental and Graduate College requirements for the Master’s degree in Geosciences. It is important that you acquaint yourself with these requirements and deadlines and remain informed throughout your academic career.

GEOSCIENCES GRADUATE POLICY COMMITTEE

The Graduate Policy Committee, composed of Geosciences faculty members, formulates and monitors departmental policy governing your graduate studies. This committee is responsible for evaluating your academic progress and administering financial support throughout your academic career.

GEOSCIENCES GRADUATE OFFICE

The Graduate Office is responsible for monitoring your academic progress and assisting you in meeting all departmental and Graduate College degree requirements. This office is your primary contact. All paperwork towards your degree must be submitted to the Graduate Office for approval. https://www.geo.arizona.edu/currentgrad

GRADUATE ACADEMIC SERVICES, GRADUATE COLLEGE

The Graduate Student Academic Services Office in the Graduate College is responsible for overseeing all Graduate College degree requirements and for the final posting of your degree. https://grad.arizona.edu/gsas

The Graduate College is dedicated to promoting and strengthening family relationships. Resources: https://grad.arizona.edu/new-and-current-
The Department of Geosciences offers both an MS degree and a Professional Science Masters in Economic Geology. The requirements in this handbook should be considered applicable to both degrees.

Information on general requirements for the MS and PSM degrees is available on-line through the Graduate College (http://grad.arizona.edu/) and Geosciences (http://www.geo.arizona.edu/?q=node/35).

The Graduate College sets basic degree requirements, and there are additional Geosciences requirements which are outlined in this handbook.

**MINIMUM GPA REQUIREMENT**

A student cannot earn a graduate degree or certificate unless he or she has achieved a cumulative grade-point average of 3.00 or higher on all course work taken for graduate credit, whether or not the courses are offered in satisfaction of the specific requirements for a specific graduate program.

A student whose cumulative GPA is below 3.0 for two consecutive semesters will be disqualified. Programs may allow students to take additional course work while in non-degree status. In order to graduate, the student must apply for readmission to the Graduate College through their graduate department. Readmission is not guaranteed. No student on academic probation may hold a scholarship, fellowship, or assistantship.

**DEFICIENCIES**

A deficiency is a lack of coursework or knowledge in a basic area which may be critical to a student's graduate and professional work. A student's advisor may require that she or he satisfy these deficiencies through further coursework. A grade of C or better will satisfy deficiency requirements, but no deficiency will be eliminated on a pass/fail basis.

**MINIMUM ENROLLMENT REQUIREMENT**

The Department of Geosciences requires that students on scholarship, fellowship, or assistantship support must register for a minimum of 9 graduate units per semester. Students at the end of their degree can arrange to take fewer units.

**CONTINUOUS ENROLLMENT REQUIREMENT**

MS students are required to be enrolled each fall and spring semester for a minimum of three graduate units (nine graduate units if on scholarship, fellowship or assistantship) from original matriculation until all degree requirements are met. If degree requirements are to be completed in the summer, MS students must register for a minimum of one unit of graduate credit during that term. Unless excused by an official Leave of Absence (which may not exceed one year throughout the
GENERAL INFORMATION

CONTINUOUS ENROLLMENT REQUIREMENT (CONT)

Students not making satisfactory academic progress, as determined by the Graduate Policy Committee and the student’s advisor, are not eligible for departmental support or departmental office space, and continued unsatisfactory progress will result in disqualification from the degree program.

SATISFACTORY ACADEMIC PROGRESS

Satisfactory academic progress consists of meeting all enrollment and grade requirements outlined above, as well as meeting with committees once per year and submitting a subsequent annual progress report, and making adequate progress in taking exams, progressing in independent research, submitting papers to peer-reviewed journals, participating at conferences, and participation in proposal writing. Failure to meet these academic requirements as judged by the committee will be grounds for ineligibility for support and potentially dismissal.

Students not making satisfactory academic progress, as determined by the Graduate Policy Committee and the student’s advisor, are not eligible for departmental support or departmental office space, and continued unsatisfactory progress will result in disqualification from the degree program.

DISMISSAL AND APPEAL POLICY

Students may be dismissed from the Geosciences graduate program due to insufficient progress towards completion of the degree. The Graduate Policy Committee (GPC) monitors student progress and periodically notifies students who are not making satisfactory or timely progress. This notification is a written warning and requires the student to propose a schedule for degree completion which has been approved by the student’s advisor.

Once the GPC accepts the proposed schedule, further noncompliance prompts a written notification that the student will be academically disqualified by the Graduate College at the start of the next semester. The student may appeal this status conversion in writing to the GPC chairperson, but this appeal must be received before the date of the status conversion. The student may appeal the GPC chairperson’s decision to the Geosciences Department Head.

DISPUTE RESOLUTION RESOURCES

Graduate school can be a challenging and stressful endeavor, and disputes may arise with other students, with your advisor, or with other faculty members.

- Geosciences dispute resolution policy
- Graduate College Summary of Grievance Types and Responsible Parties
DEGREE REQUIREMENTS

MS COURSE UNITS AND PLAN OF STUDY

A minimum of thirty units of graduate-level courses (500 or above) are required for a Master's degree, fifteen of which must be graded coursework.

In addition, two to six of the required thirty units must be Thesis (GEOS 910) credits. First-year Geosciences students are required to take two semesters of GEOS 595A, Topics in Geosciences Colloquium. The MS Plan of Study (filed second semester) will detail your 30 coursework units.

MS TIME LIMITATION

*It is expected that a Master's degree will take two years to complete.* All requirements for the MS degree, including transfer work, must be completed within six years.

RESEARCH COMMITTEE

Upon admission to the MS program, you are assigned a temporary advisor, who has expressed an interest in serving as your Major Advisor. Prior to your second semester you will formally select a Major Advisor and two additional committee members to form your Research Committee. The majority of your committee must be tenured or tenure-track faculty in the Department of Geosciences. Tenure-track faculty in the Department of Geosciences must direct or co-direct all MS research.

With special permission from the Graduate Policy Committee and the Graduate College, scholars without a University faculty appointment may also be considered for committee membership (special members.) At most, one such special member may be considered for committee membership.

MEETING WITH ADVISORY COMMITTEE

The Geosciences department requires that you meet with your advisory committee (MS committee) at least once a year. In preparation for that meeting you are required to prepare a brief (no more than one page) written report that summarizes your progress during the past year and outlines your goals for the coming year. The advisory committee meeting is not supposed to be a mini-oral exam; your advisory committee should benefit you by providing advice and support.

The meeting (30-60 minimum) is an opportunity to discuss progress and goals as a group, identify relevant courses, provide advice, schedule events such as prelims and defenses, and consider funding opportunities. Your prepared progress report should be signed by each member of the committee and a copy is due in the Geosciences Academic Affairs office (GLD-S 210) on May 1 of each year that you are enrolled in a Geosciences graduate degree program. You should contact the members of your advisory committee to schedule a meeting and prepare your progress report in advance of the meeting. Students without committees should plan to meet with their advisor to discuss choosing a committee before the May 1 deadline.

Please reference the suggested schedule for yearly committee meetings here: [https://www.geo.arizona.edu/?q=node/35](https://www.geo.arizona.edu/?q=node/35)

PUBLIC PRESENTATION

Near the end of your MS program you must give a public presentation of your research. The thesis does not have to be in final form when this presentation is given. The presentation should be public and announced in advance, and be in whatever format is acceptable to your Research Committee. These presentations are generally
THESIS REQUIREMENTS

PUBLIC PRESENTATION (CONT)

made at national meetings (AGU, GSA), the GeoDaze Symposium, or a departmental brown bag.

A Public Presentation form signed by your advisor must be submitted to the Geosciences graduate office before degree completion.

THESIS OPTION

The culmination of your degree program is the submission of a formal thesis, which usually takes the form of a professional prepublication manuscript. By the end of your second semester, you must prepare a written proposal for the research required for a thesis, discuss this proposal with your committee and obtain their approval of the proposal. MS candidates who have not had research proposals approved by the end of their second semester are not making satisfactory academic progress towards their degree and therefore may not eligible for departmental support.

910 UNITS

Two to eight units of GEOS 910 are required.

THESIS FORMAT GUIDELINES

General thesis format guidelines are outlined in the Manual for Theses and Dissertations (available online at https://grad.gas/dissertations-theses) and must be strictly followed for thesis submission.

You may present your research in the form of a manuscript suitable for submission to an appropriate professional journal. Please discuss your thesis options and format with your Major Advisor.

The format check will be performed by your Major Advisor. Your Major Advisor must be given sufficient time to complete the format check and return the manuscript to you for corrections. In addition to

SUBMISSION OF THESIS

All requirements for the master’s degree, including the submission of the final, approved thesis for archiving, must be completed by the published deadline for graduation (https://grad.arizona.edu/gas/degree-requirements/important-degree-dates-and-deadlines) in that semester or term. The submitted thesis must be the final thesis approved by the thesis committee with no edits or revisions remaining.

All master’s theses will be archived both with ProQuest/UMI in their national archive of dissertations and theses and in the University of Arizona Campus Repository maintained by the UA Library. The thesis submitted for archiving must be the final thesis as approved by the student’s thesis committee.
# MS DEGREE TIMELINE

All paperwork, including Graduate College forms, must be submitted to the Geosciences Graduate Office for approval. MS degrees are expected to take two years to complete. Students not following this schedule are at risk of making unsatisfactory academic progress.

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan of Study</strong></td>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>Submit Plan of Study in GradPath. This is the plan for completing your required courses. List 30 units of course work, 15 of which must be graded. Also include 2-6 units of GEOS 910.</td>
<td></td>
</tr>
<tr>
<td><strong>Master’s Committee Appointment</strong></td>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>Submit Master’s Committee Appointment form in GradPath. Choose Major Advisor and two committee members. The majority of your committee must be tenure-track faculty in the Department of Geosciences.</td>
<td></td>
</tr>
<tr>
<td><strong>Proposed Research Form</strong></td>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>Submit Proposed Research form (department PDF). Meet with Research Committee and formulate research proposal.</td>
<td></td>
</tr>
<tr>
<td><strong>Public Presentation Form</strong></td>
<td><strong>Fourth Semester</strong></td>
</tr>
<tr>
<td>Give a public presentation of your research. Submit Public Presentation form (department PDF).</td>
<td></td>
</tr>
<tr>
<td><strong>Submit MS Thesis</strong></td>
<td><strong>Fourth Semester</strong></td>
</tr>
<tr>
<td>Give thesis to committee four weeks before deadline. Obtain committee signatures on approved page. Submit one copy of the thesis electronically to the Graduate College.</td>
<td></td>
</tr>
</tbody>
</table>
TEMPERATURE VARIATIONS ACCOMPANYING THE FORMATION OF SKARNS NEAR PATAGONIA, ARIZONA

by
Wille E. Coyote

A Thesis Submitted to the Faculty of the
DEPARTMENT OF GEOSCIENCES
In Partial Fulfillment of the Requirements for the Degree of
MASTER OF SCIENCE
In the Graduate College
THE UNIVERSITY OF ARIZONA
2019
**APPROVAL PAGE FOR THESIS**

*Also known as Page 2*

Option 1: Your Graduate Coordinator will use Adobe Sign to gather signatures for your approval page. Once the chair/co-chairs and committee members have all signed, you will include that signed approval page as page 2 in the dissertation.

Option 2: If your chair/co-chairs and committee members prefer to physically sign your approval page, please follow these instructions:

Download a sample page at [https://grad.arizona.edu/gsas/dissertations-theses/sample-pages](https://grad.arizona.edu/gsas/dissertations-theses/sample-pages) to prepare your approval page. Be sure to use the correct version, depending on whether you have one committee chair, or co-chairs. Type your name, thesis title and the names of the members who participate on your committee.

Next, print out a hard copy and get the signatures of all your committee members. Print this page in color for the watermark to show properly. Your committee chair/co-chairs will need to sign the form twice (as a member and as chair/co-chair).

If a member or chair attends the defense remotely, scan the page, have them sign and send back to you. When all signatures are received, scan the signed approval page and insert it as page 2 of the thesis. Keep the original for your records. DO NOT add to ETD ProQuest as a supplementary file.
GEOSCIENCES MENTORING POLICY

Commitment to Support

The Department of Geosciences is committed to the concept of building, supporting, and encouraging an active mentoring program between faculty and graduate students. To that end, the Department supports the definition of mentoring provided in the January 1991 Graduate Council position paper on mentoring:

Mentors are advisors, people with career experience willing to share their knowledge; supporters, people who give emotional and moral encouragement; tutors, people who give specific feedback on one’s performance; masters, in the sense of employers to whom one is apprenticed; sponsors, sources of information about aid in obtaining opportunities; models, of identity, of the kind of person one should be to be an academic. Zelditch, M., 1990, “Mentor Roles”, Proceedings of the 32nd Annual Meeting Western Association of Graduate Schools.

The Department understands that the relationship between mentor and student is a very personal one, but recognizes that it is important to develop appropriate departmental infrastructure to support mentoring relationships. Thus, the Department adopts, as a definable graduate Mentoring Program, the following guidelines and expectations:

» The Department will provide clear indications of the requirements for graduation from the program, including all examinations, Graduate College requirements, and expected time to complete each step toward the degree. Much of this information will be made available through the departmental Graduate Academic Advisor.

» Evaluation of student progress and performance will be provided by the departmental Graduate Policy Committee and Graduate Academic Advisor, which will provide at least annual written documentation of student progress. The Graduate Policy Committee will set a clear and reasonable policy regarding the norms for time-to-degree and student progress and will take appropriate action on the basis of this policy to assure that students meet these requirements. The Graduate Policy Committee will formulate explicit, well-publicized dismissal and appeal procedures.

» Advisors (mentors) are expected to help students develop their writing skills, both for scholarly publications and grant writing. In addition, from time to time, the Department will offer special courses or seminars on technical and grant-writing skills.

» The Department encourages timely initiation of research by making an initial assignment of a temporary faculty advisor for each graduate student. Thus, even during the first semesters here, students are encouraged and enabled to initiate research.

» The Department actively encourages graduate student involvement in Departmental affairs in terms of committee representation wherever appropriate.

» It is the expectation that students will participate in professional meetings. To this end, the Department has a long-established annual Geoscience Symposium organized by graduate students that provides the opportunity for student (graduate and undergraduate) presentations in the format used in national meetings. It is also a departmental degree requirement that graduate students will give a public presentation of their research, supported to the extent possible by research and departmental resources.

» The Department encourages student teaching opportunities. The Department offers interested students, to the extent possible under funding limitations, the opportunity to teach laboratory sections under carefully supervised and structured conditions. Each GTA is evaluated at the end of the semester by both students and a faculty supervisor. The Department is committed to promoting interest in, and proficiency at, teaching.

» The Department recognizes that the graduate student body represents a diverse and changing population. The Department is committed to supporting diversity, and actively recruits minority and under-represented students.
This Financial Support Policy is provided for students to inform them of departmental policy regarding graduate student support. The policies outlined below are intended to be consistent with four semesters in residence (two years) for an MS degree and eight semesters in residence (four years) for a Ph.D. degree.

1. **Period of Eligibility** - Contingent upon availability of state funds, students admitted with support will be eligible for departmental support at the half-time level (20 hours per week) for four consecutive semesters (MS program) or eight consecutive semesters (Ph.D. program).

2. **Support Commitment from Department** - Departmental support may be in the form of a Teaching Assistantship (TA), Research Assistantship (RA), scholarship, or some combination thereof. Departmental RA and scholarship support will be provided if academic progress is satisfactory. Departmental TA support will be provided if both teaching performance and academic progress are satisfactory.

3. **Student Without or Beyond Support** - Students who are admitted to the program without support, or who have exhausted their period of eligibility, may be considered later for departmental support on a semester-by-semester basis, with no commitment for additional consecutive support.

4. **Declining Departmental Support** - If departmental support is not desired during the period of eligibility, a written notice must be filed with the Graduate Office. Failure to do so in a timely fashion may result in the cancellation of future support. Eligibility for committed support lasts for the periods stipulated above, regardless of whether the support is declined or accepted. Extensions to support eligibility are not given for semesters during which departmental support is declined, with the exception of semesters when students are on official Leave of Absence.

5. **Additional Support During the Eligibility Period** - During the period of eligibility, departmental support of less than the half-time level may be augmented by other forms of support such as scholarships, or fellowships (e.g., support may consist of a quarter-time TA plus a quarter-time scholarship). Students do not forfeit support by accepting external forms of aid (e.g., NSF or DOD Fellowships), unless their total value equals or exceeds the equivalent of a half-time assistantship.

6. **Change of Status** - Change in status from the MS program to Ph.D. program, without completion of the MS, does not automatically increase the period of aid commitment. Extensions may be granted at the discretion of the Graduate Admissions Committee. However, the total period of commitment may not exceed eight semesters from the original date of admission. Students who have completed their MS here and have been accepted into the Ph.D. program will be re-evaluated for support along with other incoming graduate students that year. Change in status from a Ph.D. program to an M.S. program may affect a student's eligibility period for departmental support.

7. **Satisfactory Performance and Progress** - Satisfactory progress is defined by maintaining full-time status, maintaining a 3.0 GPA or better, and making timely progress in taking exams and completing other requirements for the degree program. MS students who have not filed their Proposed Research by the end of their second semester in residence will be ineligible for departmental support. PhD students who have not taken their Preliminary Oral Exam by the end of their fourth semester will be ineligible for departmental support. TAs and RAs must be on campus by the starting date of their contracts unless written permission to arrive late has been given by their supervising professor. Failure to obtain previous permission for absences may result in cancellation of TA or RA support.

www.arizona.edu