COLORADO SCHOOL OF MINES
DEPARTMENT OF GEOPHYSICS

GRADUATE STUDENT HANDBOOK

FALL 2020
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1 INTRODUCTION

Welcome to the Department of Geophysics at Colorado School of Mines! This student handbook is written and updated each year in order to assist you in working through the administrative side of your degree program. We strongly encourage you to use it as a reference as you proceed through your program, as it will help answer the most commonly asked questions that our students have.

Although you should find clarification in these pages regarding your department-specific program requirements, this document is subject to change and does not supersede information provided in the Colorado School of Mines Graduate Catalog. The Catalog is the legal contract between you and the institution. We recommend you become familiar with it, as it is important that you clearly understand the details outlined there.

For your convenience, we have divided this handbook into sections. The first section contains general information of benefit to all Geophysics graduate students. The subsequent sections target the specific graduate degree programs currently offered in the Department.

We are glad that you have chosen to join us here at Mines. Good luck in your program!
# New Student Checklist

## Email, Networking, and Directory Information
- Create your campus e-mail account and confirm your access to Trailhead, Canvas, and other institutional systems.
- Verify that you are on the Department’s internal email distribution lists. Set your spam filter/forwarding so that all Mines-related email gets through.
- (Optional) See the Department to have your photo taken, and provide permission to use your likeness in newsletters, the Department’s website, and other materials.

## Registration and Residency
- Consult your advisor to register for courses and research credit (9-15 credits is considered full-time status). Registration must be complete not later than Census Day, **Wednesday, September 9, 2020**.
- **US Citizens and Permanent Residents**: Contact the Registrar’s Office for information about obtaining Colorado residency and begin the application process. You must submit your application by the Registrar’s posted deadline.
- **International Students**: Contact the **Office of Global Education** to verify that you have registered correctly in order to maintain your visa status.

## Building Access
- Obtain campus Blaster Card.
- If you are a thesis-based graduate student who will have office space in the Department, see a member of the administrative staff to complete a hard key request for Access Services.

## Professional Development Training
- Arrange to attend Sexual Harassment Prevention Training through the Title IX Office. This is required of all employees of the School, including teaching and research assistants.
- Obtain online training on Unconscious Bias and FERPA Student Rights Overview through the **Mines Skillsoft platform**.

## Getting Paid
- **If you are paid through Colorado School of Mines**:
  - Complete background check paperwork as required by the University.
  - Submit completed employment paperwork to Mines Administrative Processing Services (MAPS). International Students: Bring your visa documentation for review by MAPS.
- Provide Social Security card to Human Resources. International Students: Initially, you will not have a Social Security card but bring your Social Security number application and HR will make a copy of this. You will then need to provide them with the actual card once you receive it. *Failure to provide this information may result in a delay in receiving your first stipend payment.*
3 USEFUL GROUPS, PEOPLE, AND OFFICES

3.1 Office of Graduate Studies
Get to know the staff in the Office of Graduate Studies (OGS), for they will provide vital assistance to you throughout your program. Consult their website regularly. They post current deadlines, Graduate Catalog information, and most of the forms that you will need to complete and submit at some point during your program.

OGS is the institutional authority for the Mines Graduate Program; the Department consults with them regularly for guidance in campus-wide policy, and with individual graduate students.

3.2 Graduate Advisory Committee
The Graduate Advisory Committee (GAC) is the body of Department faculty and a representative from among the Geophysics graduate students who oversee most aspects of the graduate program. They are an excellent resource for questions or concerns regarding the more general aspects of the program. In addition to reviews and recommendations for graduate applications, the GAC reviews all graduate requests for Independent Study, Thesis Committee or Advisor requests, and programmatic exception requests, coordinates teaching assistant (TA) assignments, and addresses matters regarding the general processes of the program like the Qualifying (Comps) Process for PhD students, or reconciliation of background deficiencies. The GAC meets approximately twice per month during the fall and spring semesters.

The current composition of the GAC is
- Ebru Bozdag (Chair), bozdag@mines.edu
- Andréa Darrh (SGGS Representative), adarrh@mymail.mines.edu
- Yaoguo Li, ygli@mines.edu
- Dr. Jeff Shragge, jshragge@mines.edu
- Matt Siegfried, siegfried@mines.edu
- Ilya Tsvankin, ilya@mines.edu
- Ali Tura, alitura@mines.edu

3.3 Society of Geophysics Graduate Students (SGGS)
The SGGS is Geophysics' official graduate student organization. They help facilitate communication between the graduate students and the Department faculty and Mines Administration on a variety of matters. They also organize student activities throughout the year and raise money to assist students with travel to professional meetings and to support their yearly activities. We encourage you to participate in the opportunities they make available.

The SGGS elects new officers each fall. The President acts as student representative of the GAC.

3.4 Graduate Student Government (GSG)
The Graduate Student Government (GSG) is the governing body of graduate students at Mines. The GSG Council includes one graduate student representative from each academic department that offers one or more graduate degree program. For more information about how the GSG supports and serves Mines graduate students, or for information about how to participate in meetings or on the Council, please visit their website.
3.5 Geophysics Department - Key Faculty and Department Staff

**Paul Sava, Interim Department Head**  
**Green Center 287, psava@mines.edu**  
As Department Head, Dr. Sava is ultimately responsible for all Geophysics Department matters. He is final the approving authority for thesis committees, candidacy forms, and thesis defenses. He leads the faculty in determining course offerings and schedules, curriculum, and in fact, teaches several courses himself throughout the year. If you need program guidance or assistance, or if you have an issue regarding the Department program that you would like to discuss, you are encouraged to make an appointment to see him. Please see Debra Marrufo to arrange a meeting.

**Brandon Dugan, Associate Department Head**  
**Green Center 243, dugan@mines.edu**  
As Associate Department Head, Dr. Dugan works in tandem with Paul Sava to lead the Department. He works closely with the Graduate Advisory Committee to review and update the curriculum to ensure that the program delivers skills that help students gain employment and allow them to adapt to the evolving field of geophysics. He is also available to all students for inquiries about jobs in the geosciences, and will review job application materials (e.g., cover letters, CVs) for students.

**Michelle Szobody, Office Manager**  
**Green Center 279; mszobody@Mines.edu**  
Michelle oversees all Department operations and budgetary matters, handles student administration, including graduate student coordination, travel arrangements, meeting logistics, student contracts, and curriculum scheduling, and manages Department outreach programs.

**Debra Marrufo, Administrative Assistant**  
**Green Center 283; dmarrufo@Mines.edu**  
Debra handles day-to-day administrative matters for the Department of Geophysics, including travel and expenses, and coordinates logistics for Geophysics Field Camp. Debra also generates the annual Department newsletter, as well as manages a number of other operations.

**Brian Passerella, Laboratory Coordinator**  
**Green Center B54, bpassere@Mines.edu**  
Brian manages the Department technical equipment and inventory, administers all of our field equipment for our courses, including Field Session, and assists with undergraduate lab courses. Among other things, he is an excellent resource for teaching assistants in need of equipment for class projects.

**Noelle Vance**  
**CWP and CRA Administrator and Department Communications**  
**Green Center 249, nvance@mines.edu**  
Noelle handles business, communications, outreach, and contract matters for the Center for Wave Phenomena and the Center for Rock Abuse. Noelle also coordinates communications, particularly the website and outreach communications, for the Department of Geophysics.

**Larry Irons, Information Technology Specialist**  
**Green Center 226B, irons@mines.edu**  
Larry manages all IT hardware and software for RCP and CWP, as well as provides some IT support to the Department of Geophysics. He also oversees the repository of RCP data.
Jaime Bachmeier, Academic Advising Coordinator  
Aspen Hall, jbachmeier@mines.edu

Jaime is the Geophysics resource for undergraduate advising; however, Jaime works with Mines undergraduates who are transitioning to Combined Masters programs. If you are a student in the Combined program, Jaime will be able to help you with different aspects of your undergraduate-to-graduate transition. Jaime’s office is situated in Aspen Hall, but starting in Spring, will be available in Green Center several hours per week.

3.6 On-Campus Offices

Public Safety, x3333
The Mines Office of Public Safety serves the campus in a variety of ways, including ensuring the safety of its students, staff, and faculty. In the case of an emergency, always call 911, first. The Public Safety Office will be notified through this medium and will respond, as well.

The physical address of the Department of Geophysics is 924 16th Street.

Human Resources  
Guggenheim Hall, Basement Floor, North End of Building  
For all personnel matters, including employee benefits.

Office of Global Education  
Green Center 219  
The Mines Office of Global Education handles matters related to the unique needs of our students and scholars who come from outside the United States, as well as students who wish to travel or study internationally.

Blaster Card Office  
Elm Hall  
Bob Mask, Manager  
All students and employees must have a Blaster Card, which is the campus identification card. This card allows access to electronic doors, and secures other services, including Rec Center admission. It may be required for other campus events and activities. The Blaster Card office also issues RTD bus and light rail passes.

Parking Services  
1922 Jones Road, Building 1 Apt 5  
parking@Mines.edu  
The Parking Office is located in the Jones Road buildings, near Highway 6 and 19th Street. Anyone who parks on campus must either pay for an annual parking permit or pay one of the kiosks.

Access Services  
Access Services (more commonly known as the Key Shop, or Lock Shop) is located west of the GRL Building, which houses the Geology Museum. They handle all hard key requests and are the office at which you will turn in your key when you check out of the program. Their hours are limited each day due to campus need.

Cashier, x3298  
Student Center, North Wing, Main Floor  
Use the Cashier’s Office to pay parking fines and other expenses levied to your student account. The Cashier will also cash small-balance personal checks.
4 DEPARTMENT EXPECTATIONS AND CODE OF CONDUCT

The Department of Geophysics endeavors to foster a professional working and learning environment that is ethical, collegial, and safe for everyone, regardless of background including, but not limited to physical ability, socio-economic status, race, ethnicity, political views, religious beliefs, national origin, sexual orientation, and gender. To that end, we hold all students, faculty, and staff to the highest standards of integrity and professional conduct both on campus, and when representing the Department and the University off-campus.

4.1 Campus Policies

The Department of Geophysics, including its faculty, researchers, students, and staff, shall adhere to all Mines policies and procedures that guide how we transact business, hire and evaluate employees, carry out research, and use campus facilities. The full library of campus policies can be found here. Many of these policies apply to situations where students may be involved; we recommend you familiarize yourself with the policy website and, in particular, the section specific to Mines graduate and undergraduate students. We highlight three of the most applicable in sections 4.2 – 4.4, below.

4.2 Academic Conduct

Academic misconduct harms not only the student committing the act, but harms also the Department's and the University's reputations. It is important to understand what constitutes academic misconduct. We urge you to read and become familiar with the University's Standards and Code of Conduct, Honor Code, and policies on Academic Integrity and Misconduct, all published in the Graduate Catalog.

4.3 Professional Conduct

All students, faculty and staff on the Colorado School of Mines campus are entitled to a work environment that is free of harassment and discrimination for everyone. The Department of Geophysics is committed to fostering such an environment.

Employees of the University, including graduate students funded as teaching and research assistants, are required to attend training sessions on the prevention of sexual harassment and sexual violence, in particular. The University also has in place policies regarding sexual harassment and procedures for the treatment of harassment cases, should they arise. That policy, as well as other relevant policies and procedures, are readily available through the Title IX Office:

- Policy Prohibiting Sexual Harassment, Sexual Assault, and Interpersonal Violence
- Procedure to Resolve Complaints of Sexual Harassment, Sexual Assault, and Interpersonal Violence (including Definitions)
- Amorous Relationships Policy
- Personal Safety Leave Policy
- Policy Prohibiting Unlawful Discrimination

Mines also has in place, clear policies concerning the use of alcohol and drug use on campus and off campus, where individuals may be representing Mines, including Mines-sanctioned travel, professional conferences, field trips, and other off-campus, Mines-sponsored events. All of these policies can be found in the Mines Policy Library.
4.4 Laboratory Training and Conduct

Students, faculty, and staff who plan to carry out all or part of their work in one of the campus labs, must adhere to all safety requirements and protocols established by both the Mines Office of Environmental Health and Safety, and by the faculty or staff manager of the specific laboratory, in which the individual may be working.

The policy that provides guidance on mandatory or relevant training for lab work can be found here.

All lab occupants must complete training in general or more specific lab safety protocols, prior to working in the lab, and may require a refresher at times, as prescribed by the lab manager. Formal lab training is offered through the Office of Environmental Health and Safety.

Safety is everyone’s responsibility and is the first and most important priority for our students, researchers, faculty, and staff. Working in the labs or carrying out fieldwork may involve a variety of hazards; you are expected to be vigilant, and report safety hazards to the proper authority for correction.

Occasionally in the Green Center, or perhaps in other areas of campus, students, faculty, or staff may encounter situations that present unanticipated electrical, chemical, or other hazards.

- If you witness a medical or other emergency, always dial 911 before doing anything else.
- Contact Environmental Health and Safety (ehs@mines.edu or 303-273-3316) and your lab manager, if appropriate, to report any such safety concern on campus. In the case of emergency, dial 911.
- NEVER attempt to address an electrical, structural, or mechanical issue on the campus grounds, including inside the building, or outside. Report the issue to Facilities Management through Debra or Michelle, who will dispatch trained and certified staff to correct the problem. In the case of an electrical, structural, or mechanical issue that is an immediate threat to your safety or the safety of others, dial 303-273-3330, and then notify Debra or Michelle.

4.5 COVID-19 Response

Colorado School of Mines has established a broad framework of protocols to address the campus response to the COVID-19 pandemic, which began in spring of 2020. All of that information can be found here, and includes such daily procedures as:

- Self-reporting of symptoms, prior to coming to campus
- Frequent hand washing or, when one cannot wash hands, use of hand sanitizer
- Mandatory wearing of face coverings when in campus buildings
- Staying home when you are not feeling well

The Department of Geophysics has created a page dedicated to this purpose, with information specific to departmental functions and Green Center operations. Department policies may add to campus policies, but will not supersede them. If in doubt, we will defer to the campus authority.

The situation changes frequently. It is wise to refer to these pages regularly to become familiar with the most recent policies and procedures established in response to the pandemic.
5 OTHER USEFUL INFORMATION

The information below should answer most day-to-day questions you will have about the Department and its facilities. If you have additional questions, you should see your academic advisor or a member of the staff. Your more senior colleagues are also a great resource.

5.1 Audio-Visual Equipment for Presentations

Most meeting rooms in the Department now have projection equipment or monitors installed. However, the Department owns LCD projectors and a conference phone that students may use for presentations, including comps and thesis defenses, as availability permits. See Debra to reserve this equipment. You are responsible for the setup of the equipment and for returning the equipment and all peripherals, including slide advances, adapters, and cords, when you have finished.

5.2 Building Access

Normally, the exterior doors to Green Center are locked at approximately 10:00 p.m., Monday through Friday, during the academic year, and at 5:00 p.m. Monday through Friday during the summer terms. They remain locked until 7:00 a.m. the following Monday morning. These hours will vary during the COVID-19 response. In order to access the building outside of regular business hours, you must have your Blaster Card activated. Debra will activate your card and process a hard key request form, if the latter is necessary. If you are to have a hard key to access a shared office or one of the labs, you will then visit Access Services to check out your key. Key replacement cost is $65. Failure to return your key or pay the fine will result in a hold on your diploma and transcript.

As stated in section 4.4, above, safety is everyone’s responsibility. Therefore, everyone is expected, when leaving a space where doors should be locked, to test the door and make sure it is locked and secure before leaving.

The Department considers building access to be a convenience. Therefore, abusing the privilege will result in suspension of building access. Do not lend your Blaster Card or your key to anyone, even if you believe that person to be authorized to access that space.

Unless you are actively moving equipment in or out of a room or the building, do not prop open any door of the Department offices or labs. Doing so can be a violation of the City of Golden Fire Code, as well as a security concern. A persistent habit of leaving doors propped may result in a removal of your building access.

5.3 Copying/Scanning

The copy room is located in GC 234. The machine is accessible by a code. If you work as a TA and have copying to do for the course with which you are assisting, please see the Department office for the correct code. If you have research-related copying authorized by the research center with whom you are working, you will need the code from the administrative staff. Please direct personal copying and scanning to Kinkos, or to the campus Copy Center. If you have trouble with the machine, please do not try to fix it yourself. See the staff for assistance.
5.4 E-Mail
One of the first things you should do, before your arrival on campus, is set up your campus email account, using instructions and guidelines established by Information Technology Services (ITS). Adhere to campus policies for virus protection, data encryption, email use, passwords, and other computer-related matters.

The official mode of communication at Mines is through your Mines email address. Check your email at least once each day so that you do not miss critical information. Adjust your spam filters so that they do not filter out Mines-related email. The School’s administrative offices will not accept this as an excuse if you miss an important deadline.

The Department of Geophysics has internal distribution lists for faculty and students, to which all new graduate student emails are added. We will permit you to use a personal email address on these internal distributions; however, the address must be identifiable as yours. For example, John.Smith@gmail.com is an email address that the Department would permit. GeophysicsFan1947@yahoo.com is not permissible.

The Daily Blast is a daily email of announcements covering a spectrum of topics, from upcoming meetings, to activities and news items of interest to students, faculty, and staff, to lecture announcements. Links to more information through the Blast are usually available. The campus uses the Blast to distribute many important messages that you may not receive otherwise. Therefore, it is to your benefit to read, or at least scan through, the Daily Blast each morning.

5.5 Fax Machine
The Department of Geophysics decommissioned its fax machine in 2017. If you need fax services, consider Alphagraphics in downtown Golden, the UPS Store near Safeway on Jackson Street, or the FedEx location on South Golden Road.

5.6 Department Facilities

Green Center and Conference Rooms

The Cecil H. and Ida Green Graduate and Professional Center (known colloquially as the Green Center), has been home to the Department of Geophysics was housed since 1972, and recently underwent significant renovation.

Due to the COVID-19 response, occupancy limits for our spaces, including all offices, computer labs, conference room, Reading Room, and basement labs, have changed. Limits are posted on the doors to each space and must be strictly followed. Users are responsible for disinfecting surfaces they used while occupying the space.

The Department has one small conference room, Green Center 285, located immediately inside the main Geophysics office. Users are responsible for reserving the room in advance through Debra and are expected to leave each room in the same or better condition than the condition in which they found it.

The John Hollister Reading Room, Green Center 259, is located in the extreme northwest corner of the second floor. Currently, we are not scheduling this room for specific meetings or events; users may come and go as they need to have discussions with colleagues, or simply take advantage of a quiet location to work.
**Laboratories and Computing**

Geophysics labs in the basement of Green Center are individually managed; access to these spaces is authorized by the faculty or staff manager of the specific lab.

The Department of Geophysics owns a large repository of field equipment and instrumentation, which is available to graduate students who need to use this equipment to carry out their thesis research or other projects. Users of this equipment are expected to have been well trained in its proper use and care. For access to this equipment, contact Brian Passerella.

The **Linux Lab**, Green Center 228, is designed for teaching in a Linux computing environment. It is one of only two all-Linux computer labs on campus, the other being in Chauvenet Hall. Graduate students may use the lab when not occupied by a class or down for maintenance.

The **Seismic Interpretation Lab**, Green Center 230, is the second of our computer labs, and is managed by the Reservoir Characterization Project (RCP), who uses the lab every day. For special access to this lab, contact the RCP faculty or Larry Irons.

To facilitate access to high-performance and research computing (HPRC) at Mines, the Geophysics Department has procured 12 computing nodes on the Mio cluster (mio.mines.edu). All Geophysics students, staff and faculty can apply to access these nodes for research purposes. Please contact Professor Jeffrey Shragge (jshragge@mines.edu) prior to making a request at https://helpcenter.mines.edu/TDClient/1946/Portal/Requests/ServiceCatalog?CategoryID=11036.

Additional information on HPRC can be found at the following link: https://ciarc.mines.edu/hpc/

**General Facilities Information**

**Emergency alarms** make an unmistakable sound when active. If an alarm sounds, regardless of whether it is an actual emergency or a drill, **leave the building immediately**, closing doors behind you, and move at least 75 feet from the building. No one may re-enter the building until cleared by the Golden Fire Department.

**Food storage and a break room/ lounge** are available in Green Center 281, just inside the GC 261 office cluster. **Currently, the break room is closed due to the campus COVID-19 response**, we hope to reopen the room as soon as it is possible to do so. In this room, you will find a shared full-sized refrigerator, microwave, and Keurig coffee machine for general use. You may use these facilities to store and prepare lunch/coffee/snacks each day. Please respect your colleagues by cleaning spills and debris from the counters and appliances, do not leave food to expire in the refrigerators, and do not bring amounts of food so large as to prevent others from using refrigerator space.

Neither the Department staff nor the custodians are responsible for maintaining the break room appliances. Users of the Keurig must supply their own coffee; we recommend a reusable K-Cup, available at most retail outlets for a small cost.

**Temperature control** of Geophysics offices and labs is administered by Facilities Management. If the temperature in your office or lab is uncomfortably cold or warm, report it to the staff, who will submit a request for someone to make necessary adjustments. In the interest of not duplicating work orders, please do not submit the request yourself, unless a staff member is not available.
Due to the configuration of the buildings, and campus policies concerning building temperature, it may take several hours for the temperature to change, if it can be adjusted at all. Please plan accordingly.

**Space heaters and personal cooking appliances are not allowed** in community office spaces and labs because of the potential fire hazard and power draw. If found, they will be confiscated and disposed of. These items are strongly discouraged in individual offices, too, for the same reasons.

As a Geophysics thesis-based graduate student, **workspace** is provided for you in one of the Green Center office clusters. Michelle will assign desk space ahead of the start of the semester; if you have not yet been notified of where your workspace has been assigned, please see Michelle, or your research group advisor. Note that, while we will attempt to avoid doing so, your desk may move during summer or winter breaks.

Space is a premium in all buildings; please be mindful of the volume of books, papers, computer equipment, and personal items you are actually using in the office. Do **NOT** introduce new furniture to the area, as it adds to the flammable material in the area and can create other fire code violations and interfere with your neighbors’ spaces.

Please take telephone calls and longer conversations and meetings to empty offices or conference rooms. Keep your desk reasonably tidy, as we have off-campus visitors and consortium representatives who visit the building occasionally. It is beneficial to clean your workspace periodically; you may use your own cleaning products, or the Department has a supply. Due to the COVID-19 response, currently, occupants are expected to clean and disinfect surfaces regularly, and adhere to the departmental work schedule to optimize physical distance between individuals working in the building.

### 5.7 Student Mailboxes/ Campus Mail

Geophysics graduate students have mailboxes for receiving Mines-related and paper mail. The boxes are located in Green Center 234. Check your mailbox regularly to keep it clear for new mail. If you do not see a mailbox assigned to you and you need one, please see Debra.

Mines does not permit the sending or receiving of personal mail or shipping. If you need to send or receive a personal package, please do so through the US Postal Service, or a UPS or Fed Ex office. If you are not comfortable with having packages sent to your residence when you will not be home, request to have it sent to the address of a trusted friend or neighbor.

For your own security, do not have bank or credit card statements, medical billing statements, or other documents of a personal nature, sent to the Department. Mailboxes are in a publicly accessible space. They are not secure and not regularly monitored. For the benefit of mailbox volume, please consider having professional journals sent to your home address or receiving them electronically.

### 5.8 Campus Theft and Personal Safety

Though reported thefts and other crimes on campus are relatively rare, they happen. Do not leave unattended any valuables like laptop computers, cameras, phones, and other personal entertainment devices, or anything else that you would not wish to lose. Carry these items with you when you come and go from the office or leave them at home.
If you must leave something of value behind, store it in a locked cabinet or office, or ask a member of the staff to store it for you. Purchase a locking security cable for your laptop computer. Do not assume that a locked office, cabinet, or cable will prevent theft completely, but storing your items in the short term in that manner should deter most thefts.

Report any campus theft immediately to the Public Safety Office, and then notify the Department.

Never prop open a locked office or lab door at any time, or for any reason. If you are the last person to leave a lab or office cluster GC 226, make sure the door latches and locks behind you. The exit-only doors for the other two shared office clusters (west door to GC 261 and south door to GC 227/257) are to remain locked at all times. When leaving these areas, check the doors to be sure they are locked.

For your own safety, the Department prefers that you not be in Green Center alone, particularly when working in the labs in the basement. In the event of an emergency, there may be no one else nearby to assist you.

If you see anyone in Geophysics spaces of Green Center who may not have authorization to be there, particularly outside normal business hours, contact Public Safety at 303-273-3333. Do not approach or try to question the individual; allow the Public Safety Officer to sort it out.

If you are on campus, particularly after dark, and would be more comfortable not walking alone to get to your destination, Public Safety can also assist with accompanying you.
6 GENERAL PROGRAM INFORMATION

The next several pages cover general information about the graduate programs in the Department of Geophysics.

All forms provided or discussed below can also be found either on the Department of Geophysics website, or on the OGS website.

6.1 Heiland Lecture

The Carl Heiland Lecture Series (commonly referred to as “the Heiland”) has a long tradition in the Department of Geophysics, named for Carl Heiland, the first Geophysics Department Head, and pioneer of modern geophysics. The lecture takes place every Wednesday at 4:00 p.m. during the fall and spring semesters.

We distribute Heiland Lecture announcements by email, on bulletin boards and the Department website, and in the Daily Blast. We also send reminders by email shortly before the lecture each week. You will find the semester’s schedule of lectures also on the Department website.

The Fall 2020 Heiland schedule is posted on the Department website and will be held virtually this semester. Students and faculty will have opportunities to meet with speakers via Zoom or Microsoft Teams, in the same way as they are invited to meet individually with speakers when attending in person.

Is there a noted geophysicist you think would be an interesting addition to the Heiland schedule? We encourage you to invite him or her to be a part of the tradition. Talk to the Department Office for details and logistics.

6.2 GPGN581 and GPGN681

The Heiland Lecture Series is part of the Geophysics Graduate Seminar course, GPGN581 (MS) and GPGN681 (PhD). All students enrolled in graduate programs in Geophysics or Geophysical Engineering must register for the appropriate one of these two courses each semester for 0.0 credits until their last semester. During their anticipated final semester in their program, they register for 1.0 credits. Students must demonstrate regular attendance at lectures during the semester.

As part of this course, students in the PhD and research-based MS degree programs must give an individual scientific presentation at an off-campus professional conference:

- For PhD students, this requirement must be satisfied by giving an oral or poster presentation at conference or workshop of a professional organization, such as (but not limited to) SEG, AGU, SIAM, or LPSC.

- Master of Science (MS) students may complete the requirement by presenting at a professional conference or workshop, as described above, or at the Mines Graduate Research Conference (GRADS), held each spring term on campus.

Students completing the presentation component of the course must document the experience to receive final credit for the course, and before scheduling any thesis defense. Therefore, it is important that the student plan early in their program to fulfil this requirement successfully.
Master of Science students, under extraordinary circumstances, may apply for an exception to complete this requirement by giving an individual presentation at a research consortium meeting. This is NOT a regularly accepted method of fulfilling the requirement, and the student must propose using this option to the Graduate Advisory Committee (GAC) not later than the semester prior to the term during which the student expects to present. The oral presentation must be an individual effort. *Consortium meeting poster presentations are never acceptable as exception requests.*

The Department awards a grade of PRG for each student who regularly attends the Heiland Lectures and completes the individual presentation. The PRG will remain on the student’s transcript, and the student will receive 1.0 credit of coursework toward the appropriate degree.

6.3 Thesis Committee Composition and Responsibilities

**General Department Rules for Thesis Committees**

A thesis committee should be both diverse and rigorous, while composed of members whose expertise and involvement will assist you with producing a high-quality thesis.

The Department of Geophysics requires for MS students: three members, minimum:

- The first member is your advisor, who must be full-time, active Department of Geophysics faculty. Research faculty may serve in this role, but then must also be approved as Graduate Faculty by the Office of Graduate Studies. See the OGS [website](#) for a full list of approved Graduate Faculty.
- The second member must be a full-time, active member of the Department of Geophysics faculty. Geophysics research faculty may serve in this role, but then must also be approved as Graduate Faculty by the Office of Graduate Studies.
- The third member may be a full-time faculty member from Geophysics or another department, may be a part-time faculty member, or may be an off-campus representative.
- A minor representative would be in addition to the three core members and must be a full-time member of the faculty in the department where the student would hold the minor program.

PhD students must have five members, minimum. All five core committee members must be full-time members of the Mines

- The first member is your advisor, who must be full-time, active Department of Geophysics faculty. Research faculty may serve in this role, but then must also be approved as Graduate Faculty by the Office of Graduate Studies. See the OGS [website](#) for a full list of approved Graduate Faculty.
- The second and third regular committee members must also be full-time, active Department of Geophysics faculty. Research faculty may serve in this role, but then must also be approved as Graduate Faculty by the Office of Graduate Studies.
- All PhD students must declare a minor program of study, and therefore appoint a minor representative. The minor rep must be a full-time member of the faculty in the department where the student has declared the minor program.
- The final member of your committee is your committee Chair, who must be a full-time member of the Mines faculty, and not affiliated with either Geophysics, or with the minor department.
- Adjunct Geophysics faculty and off-campus professionals may serve as committee members, but would be in addition to the five core members.
As you can see from the above bullet items, the majority of your thesis committee must be represented by members of the Geophysics faculty. The GAC will entertain requests for exceptions to this requirement on a case-by-case basis, if good and sufficient justification is shown.

If a student requests more than one committee member, on-campus or off-campus, who is affiliated with the same research group, then the Department also will require the student to include one additional committee member who is not affiliated with that research group. For example, if an MS student requests two committee members from CWP (say, his advisor and one other CWP faculty member), then the Department will require the student to add a fourth member from outside the CWP group to diversify the committee. The GAC will entertain requests for exceptions to this requirement on a case-by-case basis.

**Committee Members Who Have Left Mines**

If a student’s thesis advisor or a member of the student’s committee has left his/her full-time faculty position at Mines, whether through retirement, resignation, or other circumstance, the student may have up to one year to complete the graduate program with the same advisor/committee member, provided both the student and the committee member agree to the retention. This additional year is subject to OGS approval.

If the committee member and student agree that it is best for the committee member to rotate off the committee immediately, or if the Department or OGS requires it, then the student must rotate the member off the committee using a Thesis Committee Change form. This may require adding a new committee member, depending upon the current composition of the committee.

**Thesis Committee Roles and Responsibilities**

You will find both paperwork for establishing or changing a thesis committee, as well as very useful quick-references regarding committee composition and qualifications, on OGS’s [website](#).

Below is language developed by OGS, to define the roles and expectations Mines has of faculty as members of Thesis Committees and of students engaged in research-based degree programs.

**Thesis Advisor**

The Thesis Advisor has the overall responsibility for guiding the student through the process of successfully completing a thesis that fulfills the expectations of scholarly work at the appropriate level, and meets the requirements of the Department/Division and the School. The Advisor shall:

1. be able and willing to assume principal responsibility for advising the student;
2. have adequate time available for this work and be accessible to the student;
3. provide adequate and timely feedback to both the student and the Committee regarding student progress toward degree completion;
4. guide and provide continuing feedback on the student’s development of a research project by providing input on the intellectual appropriateness of the proposed activities, the reasonableness of project scope, acquisition of necessary resources and expertise, necessary lab or computer facilities, etc.;
5. establish key academic milestones and communicate these to the student and appropriately evaluate the student on meeting these milestones.
Regular Committee Member

With the exception of the student’s advisor, all voting members of the Thesis Committee are considered Regular Committee Members. The Regular Committee Member shall:

1. have adequate time to assume the responsibilities associated with serving on a student’s Thesis Committee;
2. be accessible to the student (at a minimum this implies availability for Committee meetings to be held no less than once per semester and availability to participate in a student’s qualifying/comprehensive examinations – as dictated by the practices employed by the degree program – and the thesis defense);
3. ensure that the student’s work conforms to the highest standards of scholarly performance within the discipline, within the expertise provided by the Committee member;
4. provide advice to both the student and the student’s advisor(s) on the quality, suitability and timeliness of the work being undertaken;
5. approve the student’s degree plan (e.g., courses of study, compliance with program’s qualifying and comprehensive examination process, thesis proposal, etc.), assuring that the plan not only meets the intellectual needs of the student, but also all institutional and program requirements;
6. review thesis and dissertation drafts as provided by the student and the advisor and provide feedback in a timely fashion; and
7. participate in, and independently evaluate student performance in the final thesis defense.

Minor Committee Member

In addition to the responsibilities of a Regular Committee Member, the Minor Representative shall:

1. provide advice for, and approval of coursework required as part of a student’s minor degree program in a manner that is consistent with institutional and minor program requirements;
2. participate in, as appropriate, the student’s qualifying and comprehensive examination process to certify completion of minor degree requirements; and
3. work individually with the student on the thesis aspects for which the Minor Committee member has expertise.

Thesis Committee Chair

In addition to the responsibilities of a Regular Committee Member, the Chair of Committee shall:

1. chair all meetings of the Thesis Committee including the thesis defense;
2. represent the broad interests of the Institution with respect to high standards of scholarly performance;
3. represent OGS by ensuring that all procedures are carried out fairly and in accordance with institutional guidelines and policies;
4. provide a non-specialist’s view of the quality of the work, ensuring that the student’s mastery of the subject matter is broad and comprehensive;
5. ensure there are no conflicts of interest with the departments/divisions of the student, advisor(s) or the minor field of study and effectively address or manage, as appropriate, conflicts that may arise.

Student Responsibilities

While we expect students to seek guidance and support from their advisors and all members of a Thesis Committee, the student is responsible for actually defining and carrying out the program
approved by the Thesis Committee and completing the thesis/dissertation. As such, it is expected that the student assume a leadership role in defining and carrying out all aspects of his/her degree program and thesis/dissertation project. Within this context, students shall:

1. formally establish a Thesis Advisor and Committee by the end of their first twelve months of residence in their degree program;
2. call meetings of the Thesis Committee as needed;
3. actively inform and solicit feedback from the student’s Advisor and Committee on progress made toward degree;
4. respond to, and act on feedback from the student’s Advisor and Committee in a timely and constructive manner;
5. understand and then apply the institutional and programmatic standards related to the ethical conduct of research in the completion of the student’s thesis/dissertation; and
6. know, understand and follow deadlines defined by the institution and the degree program related to all aspects of the student’s degree program.

6.4 Establishing or Changing a Thesis Committee

Establishing Your Committee

You must establish a thesis committee not later than the end of the first 12 months of your program. The Department encourages students to establish committees as early as possible, to ensure timely completion of the program. Thesis Committee request/change forms are available on OGS website. Read the Catalog and OGS requirements carefully to ensure that the proposed committee meets institutional and departmental criteria before you submit the form to the Department.

Thesis-based MS and PhD students should use the following process.

1. Complete the Thesis Committee Request form appropriate to your program, and have committee members sign where indicated. Off-campus members may email approval, or you may scan the form for them and they may email the scanned form back with their signature.
2. Add a second page to the form, with a sentence or two describing your research. The GAC will use this information while reviewing the request.
3. Any off-campus member with voting status must provide a current CV. This is an institutional requirement.
4. Give the completed, signed form and research description to Michelle.
5. The GAC will review the request. If they have any feedback, Michelle or your advisor will relay that information. Otherwise, Michelle will pass the request along to Dr. Sava.
6. Dr. Sava will review. If he has any feedback, Michelle will communicate that. Otherwise, upon approval of the request, Michelle will forward the form to OGS and notify you that she has done so. It is safe to assume that your thesis committee has been approved by OGS unless you receive information to the contrary from that office.

Changing Your Committee

From time to time and for various reasons, a student may wish to add, remove, or change a thesis committee member. The GAC will review the change request under the process outlined above. To effect a change, complete a new Thesis Committee Request form and check the box to indicate a change to the committee. Committee members dropping off a committee must sign their acknowledgment. Bring the form to Michelle, who will process per the above procedure for establishing a committee.
6.5 Changing a Degree Program

From time to time, a graduate student's circumstances change, either professionally or personally, and the student is compelled to move to a different program.

Guidelines for changing a degree program can be found on the OGS website. The process may be as simple as a single-page form, or may require a new graduate application through the Office of Admissions. To put it succinctly, for any student who is switching to a different degree within the same program, the paperwork is relatively simple. An example would be a student in the PhD program in Geophysics, switching to the Master of Science program in Geophysics. If a student wishes to move from a degree in Geophysics to a degree in Geophysical Engineering, however, that may require a new application, because it is a different program.

All requests to move from one degree or program to another are reviewed by the GAC, prior to any departmental approval of the request.

6.6 Degree Audits, Admission to Candidacy, and Reduced Registration

Degree Audit

Every student enrolled in any graduate program at Mines must complete a Degree Audit, which OGS must approve before the student may apply to graduate, or qualify for reduced registration status (described later), but is typically done during the semester in which the student expects to complete all of his/her course work.

The degree audit application is available on the OGS website. Download and complete the form applicable to your program. Make sure that you complete the sections properly, with course work listed in appropriate sections, and obtain all necessary approvals from your committee. Failure to do so could result in your degree audit being delayed or rejected.

Scan signatures from committee members are acceptable. Email approval is also acceptable; however, the committee member approving by email must specify that he or she has reviewed your degree audit form and approves.

After completing the form and obtaining committee approvals, bring the form to Michelle, who will review the application for the Department, process the paperwork, and submit the departmentally approved form to OGS.

OGS has submission deadlines for degree audits, for any student who is applying for reduced registration or who expects to graduate in a specific semester. Read email from OGS as appropriate to this topic, and adhere to the deadlines. You must submit your paperwork to Michelle at least 3 – 4 business days ahead of OGS deadlines to ensure enough time for a departmental review.

OGS encourages Degree Audit submissions as early as possible; however, the Department generally will not approve any degree audit form for a student who has not successfully completed all course work or who is not actively enrolled for their final semester of course work completion. It is, therefore, to your benefit to formulate a course plan with your advisor as early as possible in your graduate program and adhere to that plan.

• Students in non-thesis graduate programs typically can expect to complete a Degree Audit during the second or third semester of their programs.
Master of Science students in the thesis option can also expect to complete the Degree Audit process during the second or third semester of their graduate programs. Completing and documenting the GPGN581 individual requirement is not mandatory for the Department to approve a degree audit form. However, students are strongly encouraged to have met this requirement by that time, and may not schedule any thesis defense until the requirement is met and documented.

PhD students should be able to complete a Degree Audit form within two to 2-1/2 years after the start of their programs. Completing and documenting the remaining PhD programmatic requirements is not mandatory for the Department to approve the degree audit form. However, PhD students are strongly encouraged to meet those additional requirements at the earliest possible time, to avoid unnecessary administrative delays. See the Admission to Candidacy section below for more information.

Some hints for completing your Degree Audit application:

- Do not duplicate line items. For example, if you have received approval to have a transfer course apply toward your minor program, list that course under “Minor Courses” but do not also list it under “Transfer Credit”.
- The specific approval from your committee to use transfer credit must be on file with the Department as part of minutes from a prior committee meeting.
- Your research credit will be accounted for and OGS will confirm that you have accumulated enough research credit to graduate. Therefore, you may estimate the amount of research credit you expect to have accumulated by the time of graduation on the Degree Audit form.
- Complete and sign the Responsible Conduct of Research statement on Page 2 of the form. If you did not receive any support from the National Science Foundation, then you are generally exempted from this institutional requirement. Note, however, that all PhD students are required to complete SYGN502, Introduction to Research Ethics, and therefore meet the requirement through that course.
- Remember to list GPGN581 or GPGN681, using the semester in which you are enrolled for 1.0 credits of the course.
- For course work in which you are currently enrolled, list the course, but leave the grade blank.
- 200- or 300-level course work does not count toward a graduate degree; do not list these courses.
- Proofread your form before you obtain signatures, and verify that course numbers, course titles, grades, and semesters of enrollment are all accurate.

Admission to Candidacy (PhD Only)

Admission to Candidacy is the formal process for confirming successful completion of the PhD Qualifying process, and that the student is now prepared to finish researching, write, and defend their thesis. We strongly encourage you to make use of your graduate progress checklist, to better track the completion of your program requirements as you proceed toward admitting to candidacy in the PhD program. You may inquire at any time with the Department about whether your program requirements are documented as having been met.

The PhD Admission to Candidacy application is available on the OGS website.

As with degree audits, OGS has submission deadlines for Admission to Candidacy, for any PhD student who is applying for reduced registration or who expects to graduate in a specific semester. In addition, plan to submit your Admission to Candidacy application to Michelle at least 2 – 3 days ahead of OGS deadlines.
Neither the Department nor OGS will approve an Admission to Candidacy form for any PhD student who does not have an approved degree audit form on file. The Department will approve an Admission to Candidacy form only after a student has successfully completed both steps of the Geophysics PhD Qualifying Examination.

A PhD student may submit a Degree Audit and an Admission to Candidacy form at the same time.

A PhD student may submit both a Degree Audit and an Admission to Candidacy form without having met the foreign language, practical teaching, and GPGN681 individual requirements. However, PhD students are strongly encouraged to complete all of these requirements before admitting to candidacy and may not schedule any thesis defense until all remaining programmatic requirements are met and documented.

Reduced Registration

Mines awards what is called Reduced Registration status to thesis-based graduate students who have accumulated a requisite number of credits and have approved Degree Audit and Admission to Candidacy (for PhD students) forms on file with OGS. See the Catalog for specific requirements, but generally, MS students finishing their third semester, and PhD students finishing their sixth semester, are usually eligible for this status.

Non-thesis programs are not eligible for reduced registration status.

Once a student is eligible for reduced registration, he or she need not reapply each semester. Notify the Department when OGS confirms eligibility, for accuracy of funding paperwork.

As a reduced-registration student, you will register for three credits of research plus one credit of either GPGN581 or GPGN681 (if this is your last planned semester in the program) and will be considered a full-time student. If you must, or choose to, enroll in additional course work after becoming reduced-registration eligible, Mines will charge additional tuition. Do not register for additional credits without first consulting with the faculty member responsible for your funding.
6.7 **MS Thesis Proposal Process**

Students in Geophysics or Geophysical Engineering Master of Science program must submit a thesis proposal to their Thesis Committee and then meet with their Thesis Committee to discuss the proposal by the end of the second semester of enrollment in the MSc program. The purposes of the proposal are to:

1. Define the scope of the proposed research; and
2. Allow the Thesis Committee to evaluate the suitability of the proposed research for an MSc thesis.

The proposal, not to exceed four pages, should emphasize the planned original research and clearly address the objective and scope of the thesis project and the completion schedule. The student should submit a thesis proposal outline to the Advisor for approval prior to submitting the full proposal to the Thesis Committee. The student’s Advisor is responsible for providing timely feedback on the thesis proposal outline.

The Thesis Committee will meet with the student to review the proposal and may suggest changes. After the Committee’s approval, the Department shall retain a copy of the proposal and memo about the committee meeting.

In the event of extenuating circumstances, a student may petition the Thesis Advisor to defer the thesis proposal to the third semester of enrollment in the MSc program. The student must have an approved Thesis Committee on file in the Office of Graduate Studies prior to submitting the thesis proposal to the committee.

A student may not submit a Master of Science Degree Audit to the Department until the thesis proposal has been approved and is on file with the Department.

6.8 **PhD Comps and Thesis Defenses**

We strongly encourage students to attend the defenses of their colleagues, both from within their own research groups, as well as from other groups. Not only will this prepare you for the process of holding your own defense, but it will also increase your knowledge about the research beyond your specialty and can inspire future collaborative opportunities.

**General Department/ Mines Policies for Defense Scheduling**

1. Your comps/thesis manuscript must be complete and distributed to your committee before you may tentatively schedule the defense, and the Department Head must approve the defense before you may confirm the schedule.
2. You must be actively enrolled for the term in which you schedule any defense.
3. You may schedule a defense any time during the regular workweek, depending upon committee and Department Head approval, and space availability.
4. As a rule, the Department does not allow defenses during summer terms, unless truly extraordinary circumstances require it. Students may not schedule a defense during Spring or Winter Break, under any circumstances.
5. Plan to schedule a defense at least 3 weeks ahead of the defense date, to provide adequate preparation time for the student and his/her committee and for advertising of the defense.
6. The Department's Defense Request Form is available on the Department website. Use the version appropriate to the degree level. The form is required to schedule any defense and must be approved by all thesis committee members before submitting to the Department.
7. Food is a department tradition and is welcomed by those who attend in person, but it is not a requirement for your defense.
Specific Requirements for Comprehensive (Comps) Defenses

1. Refer to the PhD Qualifying Process document on the Department website. Hereafter, we will refer to the PhD qualifying process as “First Comps” and “Second Comps”, or generally “Comps” or “Comps process” for simplicity.
2. The First Comps process must be complete (e.g., you must have submitted your paper to a peer-reviewed journal) before you may schedule your Second Comps (thesis proposal) defense.

Specific Requirements for Thesis Defenses

You must have an approved Degree Audit, and for PhD students, an approved Admission to Candidacy form on file with OGS, before you may schedule a thesis defense. Additionally, all other program requirements must be completed and documented before scheduling a thesis defense.

Instructions for Scheduling a Thesis Defense

1. Be sure that you have completed and documented all departmental requirements and all institutional milestones, including submitting your graduation application.
2. Accept the invitation from the Canvas system to enroll in the defense/checkout process and complete the Pre-Thesis Defense Quiz. Make sure you understand institutional defense rules as published here.
3. Download the applicable Thesis Defense Request Form from the Department website.
4. Notify your committee and the Department Head a minimum of 3 weeks ahead of when you anticipate defending, of your intention to defend. Attach an updated copy of your thesis manuscript for review and feedback. The Department will NOT approve your defense until your committee approvals and properly formatted manuscript are submitted.
5. Complete the Defense Request Form and circulate among your committee for approval. Email approvals are acceptable, but the form is preferred.
6. Send the signed form to Michelle for Department Head approval. Michelle will not confirm or announce your defense without full approval.
7. Forward your updated abstract to Michelle. Helpful hint: if you copy Michelle when you email the manuscript to your committee, she can use the abstract from the manuscript and save you a step.
8. Reserve appropriate audio-visual equipment for your defense, if necessary.
9. Michelle will confirm your room reservation and send you the paperwork you will need for after your defense. Follow instructions carefully to avoid delays afterward.
10. Establish a Zoom meeting to be distributed with the defense announcement, so that those wishing to attend remotely may do so. Send that information to Michelle.
11. Thesis Defenses Only: Complete the GP Program Assessment Survey and on-line exit survey before your defense.
12. Thesis Defenses Only: Schedule an exit interview with Dr. Sava or Dr. Dugan.
13. Set up the room for your defense.
14. Upon completion of your defense, regardless of the outcome, you must return the signed defense form to Michelle for the Department and institutional files.
Post-Defense Instructions

1. Return all furniture in the room to the arrangement in which you found the space. Clean table surfaces, dispose of trash/leftover food, etc. Cleaning supplies are available in the Department office.
2. Complete revisions as instructed by your committee.
3. Complete and print the Thesis Defense Form in the Canvas course administered by OGS. This is different from the Geophysics defense form, which your committee will sign at the defense.
4. After obtaining all committee signatures, bring the Canvas form to Michelle with the thesis submittal page. Michelle will obtain the Department Head signatures after confirming the following:
   a. You have submitted all software code to your research group/center;
   b. You have returned any department materials or equipment currently in your possession; and
   c. You have completed the online exit survey and exit interview.
5. Submit this final, signed form to OGS by their upload deadline. Along with the uploaded thesis, this will drive format review.
6. Submit your thesis electronically through ProQuest for format review, on or before the deadline published by OGS.
7. Complete the Graduation Check-Out and Deadlines Quiz in the Canvas system by the OGS deadlines.
8. Watch for notifications regarding your reviewed thesis, make any necessary formatting adjustments, and follow instructions for resubmitting the final version to the electronic thesis system.
9. Return your building key, if you have one, to Access Services.
10. Provide your forwarding address to OGS via Trailhead, so that they have an address to which to mail your diploma.

Thesis Defense and Graduation FAQ’s

These are some of the most common questions from students completing their programs. We encourage you to read this, as it may save you from unanticipated snags on your road to graduation.

Q: May I schedule a room before obtaining final approval for the defense date?
A: Once a manuscript is distributed and you are ready to poll your committee for availability, Michelle will tentatively schedule your defense and request a room. However, the reservation will remain unconfirmed until the Department Head and your committee have fully approved the defense.

Q: May I schedule a defense during Winter Break or during the summer?
A: Winter and Spring Break defenses are not permitted because school is not in session. Summer defenses are possible, in theory, but because of faculty travel schedules and because so many of your colleagues are also off-campus over the summer, we do not schedule defenses during the summer terms unless special circumstances require it.

Q: I cannot get my entire committee to agree on a schedule. What do I do?
A: For MS candidates, this is a problem because usually, there are only three members. You should be trying to find a schedule that will accommodate your committee, either in person or virtually.

With PhD committees, the absence of one committee member for good and sufficient reason may be less of an issue. If the absent committee member is a non-voting member, then the absence is not a problem. Seek the advice of both the Department Head and your advisor on whether you should proceed without the absent member or find another date for your defense.
Any absent committee member must document the expectation to be absent and that they agree to read the manuscript and submit all questions to your committee chair. The committee chair will cast the absent member’s vote by proxy. If the committee member is has participated in the defense virtually, then the member must send email to the Department after the defense to cast a vote.

Q: What if one of my committee members is off-campus and cannot sign the defense request?
A: Scanned signatures, or email, are acceptable. Send the form to them electronically, have them sign, and return in a similar manner. We will also accept an email from the committee member in lieu of a signature, but the member must state specifically they approve the defense to move forward and are available at the proposed date/time.

Q: I am a PhD student and have completed the teaching requirement (or the foreign language requirement); I just don’t have the documentation. Can I still schedule my defense?
A: The Department policy is that you cannot schedule a thesis defense without having fulfilled and documented completion of all program requirements.

Q: Do I have to supply food for my defense?
A: This has become a tradition and attendees certainly welcome the offering. However, you are in no way obligated to supply food or beverage for those who attend your defense.

FAQ’s for Students Returning Specifically to Defend and/ or Graduate

Q: Do I need to register for classes?
A: You must register for credits during the semester in which you defend your thesis. This is an institutional requirement. Contact OGS with questions. There is a window of time during the first part of a term where, if you have enrolled in the immediately preceding term and have defended AND COMPLETELY CHECKED OUT by specified deadlines, you may not have to register for that semester. Contact OGS or Michelle for details.

Q: What if I cannot be on campus to complete the checkout process after I defend?
A: This is no longer a typical problem since most of this process is now electronic. However, if you have obligations that require a physical presence, then you must appoint a trusted colleague on campus to do this on your behalf. Be available to sign and email documentation as necessary. If you leave campus before completing this process, BE SURE you return your key to Access Services before you go—it will hold up your transcript and your diploma!
7 INTERDISCIPLINARY MASTER OF SCIENCE PROGRAMS: HYDROGEOPHYSICS

We encourage you to coordinate closely with your advisor at the beginning of your program to establish a course plan for this program.

Program checklists specific to the Hydrogeophysics specialization of the Hydrology program, are located on the Department website. This checklist may be of assistance as you complete your coursework, although upon your first meeting with your program advisor you should have a course plan document to use, as well.

All programmatic paperwork, including your Thesis Committee Request and Degree Audit, will be submitted through the Hydrology program, not the Department of Geophysics office.

7.1 Hydrogeophysics: At-A-Glance

Requirements

1. Meet with your Advisor to establish a course plan for your degree program.
2. Satisfy any background coursework requirements specified at entry by the Hydrology Program.¹
3. If you are in the thesis program, establish a Thesis Committee early in your second semester.
4. Complete at least 30 credits of coursework and independent study or research, including specific required courses and as approved by your Advisor/Committee.
5. Achieve a cumulative GPA of at least 3.0.
6. Submit a Degree Audit by published deadlines.
7. If you are in the thesis program, finish your research, write and defend your thesis.
8. Apply for graduation, and attend the ceremony in your honor!

¹ Background requirements may be in addition to the 30 course credits required for this degree.
8 INTERDISC. MASTER OF SCIENCE PROGRAMS: HUMANITARIAN GEOPHYSICS

We encourage you to coordinate closely with your advisor at the beginning of your program to establish a course plan for this program.

Program checklists specific to the Humanitarian Geophysics track of the Humanitarian Engineering program, are located on the Department website. This may be of assistance as you complete your course work, although upon your first meeting with your program advisor you should have a course plan document to use, as well.

All programmatic paperwork, including your Thesis Committee Request and Degree Audit, will be submitted through the Humanitarian Engineering and Science program, not the Department of Geophysics office.

8.1 Humanitarian Geophysics Master's Degree: At-A-Glance

Requirements

1. Meet with your Advisor to establish a course plan for your degree program.
2. Satisfy any background coursework requirements specified at entry by the Hydrology Program.²
3. If you are in the thesis program, establish a Thesis Committee early in your second semester.
4. Complete at least 30 credits of coursework and independent study or research, including specific required courses and as approved by your Advisor/Committee.
5. Achieve a cumulative GPA of at least 3.0.
6. Submit a Degree Audit by published deadlines.
7. If you are in the thesis program, finish your research, write and defend your thesis.
8. Apply for graduation, and attend the ceremony in your honor!

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² Background requirements may be in addition to the 30 course credits required for this degree.
9 PROFESSIONAL MASTERS PROGRAM, PETROLEUM RESERVOIR SYSTEMS

We encourage you to coordinate closely with your advisor at the beginning of your program to establish a course plan for this program.

A program checklist specific to the Professional Masters in Petroleum Reservoir Systems, is located on the Department website. This may be of assistance as you complete your course work, although upon your first meeting with your program advisor you should have a course plan document to use, as well.

9.1 Professional Master’s Degree: At-A-Glance

Requirements

1. Meet with your Advisor to establish a course plan for your degree program.
2. Satisfy background coursework requirements specified at entry by the Graduate Advisory Committee (GAC). ³
3. Complete at least 30 credits of coursework, including specific required courses and as approved by your Advisor:
   a. All credits applied to the degree must be at the 400-level or above.
   b. Complete the following required courses:
      i. GPGN/PEGN419 or GPGN519/PEGN504 (3.0 credits)
      ii. Two of the following (6.0 credits):
          1. GPGN/GEGN/PEGN503
          2. GPGN/GEGN/PEGN504
          3. GEOL609
      iii. Three additional courses (9.0 credits) to include one course each from GP, PE, and GE.
4. Achieve a cumulative GPA of at least 3.0.
5. Submit a Degree Audit by published deadlines.
6. Apply for graduation, and attend the ceremony in your honor!

Recommended Timeline for Success⁴

<table>
<thead>
<tr>
<th>What</th>
<th>By When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with advisor regarding background coursework and course plan</td>
<td>First week in the program</td>
</tr>
<tr>
<td>Submit Degree Audit form to Department office</td>
<td>Early March, 2nd Semester</td>
</tr>
<tr>
<td>Submit application to graduate</td>
<td>First week, 3rd Semester</td>
</tr>
<tr>
<td>Complete course requirements and checkout process</td>
<td>3rd Semester</td>
</tr>
<tr>
<td>GRADUATE!</td>
<td>End of 3rd Semester</td>
</tr>
<tr>
<td>Attend Geophysics graduation event in your honor</td>
<td>Graduation Day</td>
</tr>
</tbody>
</table>

³ Background requirements may be in addition to the 30 course credits required for this degree.
⁴ Timeline is based on a students’ starting during the Fall semester.
10 MASTER OF SCIENCE DEGREE: NON-THESIS OPTION
GEOPHYSICS OR GEOPHYSICAL ENGINEERING

We encourage you to coordinate closely with your advisor at the beginning of your program to establish a course plan for this program.

A program checklist specific to the Masters Non-Thesis degree in Geophysics and in Geophysical Engineering, is located on the Department website. This may be of assistance as you complete your course work, although upon your first meeting with your program advisor you should have a course plan document to use, as well. The latest version of the checklist is in Excel format. The form cells are locked only for the convenience of tabbing through the form, but it is not password protected. You are welcome to unprotect the spreadsheet and manipulate it to a format that works better for you.

10.1 Master of Science Non-Thesis: At-A-Glance

Requirements

1. Meet with your Advisor to establish a course plan for your degree program.
2. Satisfy background coursework requirements specified at entry by the Graduate Advisory Committee (GAC).\(^5\)
3. Complete at least 30 credits of coursework, including specific required courses and as approved by your Advisor:
   a. All credits applied to the degree must be at the 400-level or above.
   b. Complete the following required courses:
      i. LICM501 or SYGN683 (1.0 credit)
      ii. GPGN581 (1.0 credit)
      iii. GPGN583 (1.0 credit)
      iv. Three additional courses (9.0 credits) to include one course from each of three pre-approved themes.\(^6\)
4. Achieve a cumulative GPA of at least 3.0.
5. Submit a Degree Audit by published deadlines.
6. Apply for graduation, and attend the ceremony in your honor!

Recommended Timeline for Success\(^7\)

<table>
<thead>
<tr>
<th>What</th>
<th>By When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with advisor regarding background coursework and course plan</td>
<td>First week in the program</td>
</tr>
<tr>
<td>Submit Degree Audit form to Department office</td>
<td>Early March, 2(^{nd}) Semester</td>
</tr>
<tr>
<td>Submit application to graduate</td>
<td>First week, 3(^{rd}) Semester</td>
</tr>
<tr>
<td>Complete course requirements and checkout process</td>
<td>3(^{rd}) Semester</td>
</tr>
<tr>
<td>GRADUATE!</td>
<td>End of 3(^{rd}) Semester</td>
</tr>
<tr>
<td>Attend Geophysics graduation event in your honor</td>
<td>Graduation Day</td>
</tr>
</tbody>
</table>

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\(^5\) Background requirements may be in addition to the 30 course credits required for this degree.

\(^6\) The list of themes/preapproved courses is on the Geophysics website.

\(^7\) Timeline is based on a student's starting during the Fall semester and matriculating from another institution; students in the Combined Program will usually complete the degree at an accelerated rate.
11 MASTER OF SCIENCE DEGREE: THESIS OPTION
GEOPHYSICS OR GEOPHYSICAL ENGINEERING

You should work closely with your advisor and thesis committee to stay on track to complete your degree in your planned length of time. The at-a-glance information is a good fingertip resource for ensuring that you complete all your program requirements. The checklist on the Department website is highly useful for recording the requirements as you fulfill them. The latest version of the checklist is in Excel format. The form cells are locked only for the convenience of tabbing through the form, but it is not password protected. You are welcome to unprotect the spreadsheet and manipulate it to a format that works better for you.

11.1 Master of Science Thesis Option: At-A-Glance

Requirements

1. Meet with your Advisor to establish a course plan for your degree program.
2. Satisfy background coursework requirements specified at entry by the Graduate Advisory Committee (GAC).  
3. Establish a Thesis Committee early in your second semester.
4. Complete the MS Thesis Proposal process by the end of your second semester.
5. Complete at least 24 credits of coursework and at least 6 credits of research, as approved by your committee and as dictated by the following criteria:
   a. All credits applied to the degree must be at the 400-level or above.
   b. Complete 6 research credits (GPGN707) under your Mines faculty advisor.
   c. Complete the following required courses:
      i. LICM501 or SYGN683 (1.0 credit)
      ii. GPGN581 (1.0 credit)
      iii. GPGN583 (1.0 credit)
      iv. Three additional courses (9.0 credits) to include one course from each of three pre-approved themes.  
6. Achieve a cumulative GPA of at least 3.0.
7. Submit a Degree Audit and apply for Reduced Registration status by published deadlines.
8. Research, write and defend your MS thesis.
10. Provide any associated software code and electronic copy of your finished thesis to your Center administrator (if working within one of the research centers).
11. Apply for graduation, and attend the ceremony in your honor!

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8 This information is applicable to Master of Science programs beginning with the Fall 2019 Catalog. Students enrolled on catalogs prior to Fall 2019 should consult an earlier Handbook, or early catalog from the Registrar’s Website.
9 Background requirements may be in addition to the 30 course credits required for this degree.
10 The list of themes/preapproved courses is on the Geophysics website.
### Master of Science Thesis: Recommended timeline for success

<table>
<thead>
<tr>
<th>What</th>
<th>By When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with interim advisor regarding background coursework and course plan</td>
<td>First week in the program</td>
</tr>
<tr>
<td>Make formal appointment of advisor and committee; obtain committee approval of planned coursework</td>
<td>Middle of 1st semester</td>
</tr>
<tr>
<td>Complete MS Thesis Proposal and have approved by Thesis Committee</td>
<td>Not later than 2nd semester</td>
</tr>
<tr>
<td>Complete course requirements and thesis research</td>
<td>3rd semester</td>
</tr>
<tr>
<td>Submit Degree Audit form to Department office</td>
<td>Late October, 3rd semester</td>
</tr>
<tr>
<td>Submit application to graduate</td>
<td>Early November, 3rd semester</td>
</tr>
<tr>
<td>Finish writing and defend thesis</td>
<td>Middle to end of 4th semester</td>
</tr>
<tr>
<td>Complete thesis revisions and check out</td>
<td>See OGS website for deadlines and processes</td>
</tr>
<tr>
<td>GRADUATE!</td>
<td>End of 4th semester</td>
</tr>
<tr>
<td>Attend Geophysics graduation event in your honor</td>
<td>Graduation Day</td>
</tr>
</tbody>
</table>

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11 Assumes a student’s starting the program during the Fall semester.
12 DOCTOR OF PHILOSOPHY PROGRAM
GEOPHYSICS OR GEOPHYSICAL ENGINEERING

You should work closely with your advisor and thesis committee to stay on track to complete your degree in a planned length of time. The at-a-glance information is a good fingertip resource for ensuring that you complete all your program requirements. The checklist on the Department website is highly useful for recording the requirements as you fulfill them. Given the expanded program requirements for PhD, we strongly encourage making use of this checklist.

The latest version of the checklist is in Excel format. The form cells are locked only for the convenience of tabbing through the form, but it is not password protected. You are welcome to unprotect the spreadsheet and manipulate it to a format that works better for you.

12.1 PhD At-A-Glance

Requirements

1. Satisfy background requirements specified by the GAC.
2. Establish a Thesis Committee by the end of your second semester.
3. Complete 72 credits beyond a Bachelor's Degree as follows:
   a. Transfer up to 36 credits from a thesis-based Master's Degree.
   b. Complete 24 research credits (GPGN707) under your Mines faculty advisor.
   c. Complete 12 credits in a minor program, as approved by your committee.
   d. Complete the following required courses:
      i. LICM501 or SYGN683 (1 credit)
      ii. SYGN502 Introduction to Research Ethics (1 credit)
      iii. GPGN681 Graduate Seminar (1 credit)
   e. Complete two of the following three courses:
      i. SYGN501 Research Skills for Graduate Students (1 credit)
      ii. SYGN600 College Teaching (2 credits)
      iii. LAIS601 Academic Publishing (2 or 3 credits)
      f. Count no more than 9 credits at the 400-level for graduate credit
4. Achieve a cumulative GPA of at least 3.0.
5. Submit your Degree Audit to the Department for approval.
6. Propose, complete and defend a PhD Qualifying Project (First Comps) within your first 18 months at Mines.
7. Write and defend a PhD thesis proposal (Second Comps) before the start of your third year at Mines.
8. Apply for Admission to Candidacy and reduced registration.
10. Participate in a practical teaching experience.
11. Research, write and defend a PhD thesis on original work that results in new knowledge and/or techniques.
12. Complete required thesis corrections; provide an electronic copy of your thesis and any associated software code to your Center administrator and check out with OGS.

12 PhD students enroll in GPGN681 for 0.0 credits each semester in residence until the last semester. During the last semester in the program, they register for 1.0 credits. Students must attend Heiland Lecture regularly until graduation, and complete the GPGN681 individual presentation requirement. Credit is awarded with a grade of PRG.
13 SYGN600 does not substitute for the PhD practical teaching requirement.
13. Apply for graduation, and attend the ceremony in your honor!

**Recommended Timeline for Success**

<table>
<thead>
<tr>
<th>What</th>
<th>By When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with interim advisor regarding background coursework</td>
<td>First week of program</td>
</tr>
<tr>
<td>Make formal appointment of advisor and committee; obtain committee</td>
<td>End of 1st semester</td>
</tr>
<tr>
<td>approval of planned coursework</td>
<td></td>
</tr>
<tr>
<td>Choose First Comps project</td>
<td>End of 1st semester</td>
</tr>
<tr>
<td>Present proposal for First Comps project</td>
<td>Early in 2nd semester</td>
</tr>
<tr>
<td>Begin research for First Comps project</td>
<td>Middle of 2nd semester</td>
</tr>
<tr>
<td>Choose thesis topic</td>
<td>2nd semester</td>
</tr>
<tr>
<td>Begin background research for thesis</td>
<td>Middle of 3rd semester</td>
</tr>
<tr>
<td>Defend and submit First Comps paper</td>
<td>End of 3rd semester</td>
</tr>
<tr>
<td>Complete prereqs and specific required courses</td>
<td>End of 4th semester retention</td>
</tr>
<tr>
<td>Submit Degree Audit form</td>
<td></td>
</tr>
<tr>
<td>Defend thesis proposal</td>
<td></td>
</tr>
<tr>
<td>Submit application for candidacy and reduced registration status</td>
<td></td>
</tr>
<tr>
<td>Begin writing thesis</td>
<td>Middle of 6th semester</td>
</tr>
<tr>
<td>Finish thesis research</td>
<td>7th semester</td>
</tr>
<tr>
<td>Submit final thesis draft to committee and schedule defense</td>
<td>≥ 3 weeks before defense</td>
</tr>
<tr>
<td>Defend thesis</td>
<td>Middle of 8th semester</td>
</tr>
<tr>
<td>Submit application for graduation to OGS</td>
<td>Published OGS deadline</td>
</tr>
<tr>
<td>Complete thesis revisions and check out</td>
<td>See OGS website for deadlines</td>
</tr>
<tr>
<td>GRADUATE!</td>
<td>End of 8th semester</td>
</tr>
<tr>
<td>Attend Geophysics graduation event in your honor</td>
<td>Graduation Day</td>
</tr>
</tbody>
</table>

14 Timeline is based on a student’s starting during the Fall semester.

15 PhD students may register for reduced tuition (4 credits of research) after completing 72 hours of course and research credit and having approved Admission to Candidacy and Degree Audit forms on file with OGS by posted deadlines.
12.2 Additional PhD Program Requirements

In addition to the coursework required for the PhD Degree in Geophysics or Geophysical Engineering, students must complete the following programmatic requirements.

Qualifying Process

All students in the PhD program must complete the PhD Qualifying Process (colloquially known as the Comps Process), within the first two calendar years of starting the program. The Department may grant up to one additional year for good and sufficient reason shown by the student and endorsed by their advisor.

The Comps process in the Department of Geophysics is a two-part examination. The first part is researching, writing, and defending a manuscript to be submitted to a peer-reviewed journal (1st Comps). Upon successful completion of that defense and submission of the paper, the student must complete the 2nd Comps, a defense of their written thesis proposal.

Both Comps defenses are public defenses of research, subject to the Defense Rules outlined by OGS. The details and expectations of the Comps process can be found on the Department website.

Foreign Language Requirement

All students in the PhD program must demonstrate fluency in a language other than English. Students whose native language is not English have fulfilled this requirement and need not document it.

Students whose native language is English may complete the requirement in one of three ways:

1. Provide a copy of their high-school transcript showing successful completion of at least two years of high-school level foreign language instruction. Both years of instruction must be in the same language. Unofficial transcripts are acceptable.
2. Provide a copy of a college transcript showing successful completion of at least one year of college-level foreign language instruction. The year of instruction must be in a single language. Unofficial transcripts are acceptable.
3. Demonstrate fluency in a language other than English. The student must be able to engage in a conversation in that language with a member of the Mines faculty or staff who speaks that language fluently. That faculty or staff member shall document to the Department, usually in the form of an email, that they had the conversation with the student in that language. That individual should indicate the approximate length of the conversation and briefly evaluate the student’s ability to speak the language.

Practical Teaching Requirement

All students in the PhD program must complete a two-week practical teaching experience. That experience must take place while actively enrolled in the PhD program, and be supervised by a member of the Mines faculty. Typically, this done in a Geophysics course, but students may complete the experience under the supervision of a faculty member outside the Department. In that case, students must get approval from their Committee and the GAC before completing the requirement.
The minimum content necessarily to fulfil the requirement is the planning and delivery of at least 6 lecture hours, or 4 lecture hours and 2 labs, including creating and evaluating all assignments and quizzes, and holding office hours as necessary.

The instructor of record must actively supervise the student’s teaching and provide a written evaluation of the student’s teaching performance, at the end of the two-week experience. That documentation is submitted on a departmental form drafted for this purpose.