



**Climate and Space
Graduate Student Handbook**

Table of Contents

| Section | Page |
|---|-------------|
| Introduction | 2 |
| Diversity Statement | 2 |
| North Campus | 3 |
| Climate and Space Research Building (CSRB) | 3 |
| General Student Business | 4 |
| CLaSP Courses and Curriculum | 5 |
| Support and Resources | 13 |
| Extra-Curricular and Co-Curricular Organizations | 16 |
| Appendix A – Climate and Space Research Building (CSRB) Map | 18 |
| Appendix B – Advisors and Other Contacts | 20 |
| Appendix C – PhD Student Information/Resources | 23 |
| Appendix D – CLaSP Probation Policy | 27 |
| Appendix E – Sexual and Gender-based Misconduct Reporting | 31 |
| Appendix F – PhD Student Teaching Training and Opportunities | 32 |

Introduction

Welcome to the Department of Climate and Space Sciences and Engineering (CLaSP) in the College of Engineering (CoE) at the University of Michigan. We are happy that you are pursuing a graduate degree in Climate and Space. We will support you through your program of study. We encourage CLaSP students to become an integral part of the department, the college, and the University as a whole.

This handbook will help you get acquainted with the department and the opportunities and resources available to you at the CoE, the Rackham Graduate School, and across campus at UM. It contains lists of academic and personal resources as well as student organizations and groups. We strongly encourage you to discover the activities and resources that best meet your needs and interests.

Diversity Statement

The teaching and research mission of the Department of Climate and Space Sciences and Engineering is enhanced by learning from and working with a diverse intellectual community within an environment of full inclusion — a supportive and welcoming workplace that values all individuals and their perspectives, contributions and ideas. We welcome members with diverse global experiences across all forms of dimensions and intersections, including race, ethnicity and national origins, gender and gender identity, sexuality, class and religion.

We are especially committed to increasing the representation of those populations that are underrepresented in the Climate and Space Sciences. We are dedicated to attracting, recruiting and retaining a diverse population of the faculty, undergraduate and graduate students and staff. We work to identify and promote practices and structures that support inclusion, safety and diversity's development in our department's work through programs supported by our Diversity Ally, mentoring activities and our student organizations.

North Campus

North Campus is home to the College of Engineering; the School of Music, Theatre, and Dance; the Stamps School of Art and Design; and the Taubman College of Architecture and Urban Planning.



Maps and Transportation

- Student parking, see <https://ltp.umich.edu/parking/students.php>
- Interactive campus map campusinfo.umich.edu/campusmap/campus/north
- U of M Transportation to central campus (LS&A and Rackham) Blue Bus. <https://ltp.umich.edu/campus-transit/routes-and-schedules/>
- City Transportation (White Bus) around Ann Arbor (free with M-Card) www.theride.org
- CSRB building maps are included as Appendix A of this handbook.
- The parking lot behind CSRB is available after 5pm and on weekends without a parking pass.
- Campus bus lines closest to the CSRB are Commuter North, Northwood, and North-East Shuttle. The closest bus stop is at François-Xavier Bagnoud building (FXB - Aerospace Engineering).

Facilities and Services

- Pierpont Commons (at the Center of North Campus) includes dining, meeting spaces, Barnes and Noble Bookstore, UM Credit Union, and Computer Showcase
- Duderstadt Library (“The Dude”) includes Mujo Cafe, library, an arcade, visualization labs, and printing services
- Chrysler Center houses many of the offices listed in the “Academic Resources” below
- North Campus Grove (or Diag) includes commons area around Lurie Bell Tower, sand volleyball court, and swings

Climate and Space Research Building (CSRB)

The CSRB is our educational, research, and administrative center.

Facilities and Services

- Second floor includes the Global Change Lab (GCL), Computer Aided Engineering Network (CAEN) lab, lounge, administrative offices, and main auditorium
- First floor includes the Space Physics Research Lab (SPRL) and a break room (1232)



- Basement includes a tornado shelter and a lounge with a ping pong table (B525)
- Common meeting rooms include the Donahue Room (2422), Auditorium (2246), and CAEN Lab (2230). Please note that reservations are typically required for these rooms.
- Doors are unlocked from 7 AM - 7 PM on weekdays. M-Card access to front lobby and rear doors is required after hours and on holidays
- A new student lounge (2534) is located on the second floor in the East Wing.

General Student Business

Identification

- **Uniqname** is a name you choose that the University will use to identify you for email and most university business (8 alpha characters only)
- **UMID** is an 8-digit sequence of numbers that, along with your uniqname, is used as identification
- **M-Card** is your student ID card. It includes your photo and UMID and is required for after hours building access, city bus pass, and workshop/event access. If lost, you can obtain a new card at the M-Card services office in the Mezzanine of Pierpont Commons

Communication and Registration

- **Email** through the University is hosted by Gmail and will be your <uniqname>@umich.edu
- **Wolverine Access** (<https://wolverineaccess.umich.edu>) is where you will register for courses, track your academic progress, and manage your student finances
- **Course Registration** Prior to your first semester, you will meet with your advisor to determine the appropriate schedule. Registration appointments are determined by the Registrar's Office (ro.umich.edu/calendar/). To register via Wolverine Access go to: Students > Student Business > Student Center > Backpack/Registration, then hit the search button
- **CLaSP Web Page** (<https://clasp.engin.umich.edu/role/graduate-students/>) Each graduate student has a personal webpage. We strongly encourage students to provide professional information on their page (advisor, research area, CV etc.)

Housing

- **On-Campus** (<https://housing.umich.edu/>) housing is available to graduate students. Northwood apartments and townhouses are located on North Campus and offer units large enough to accommodate graduate students with families
- **Off-Campus** (<https://offcampus.umich.edu/housing-roommates>) housing is also available. There are many apartment complexes and rental homes in the area. The link provided will help you find something that meets your needs

Graduate-Level Grading Scale

| | | |
|----|-----------|---|
| A+ | 4.3 | |
| A | 4.0 | |
| A- | 3.7 | |
| B+ | 3.3 | CLaSP minimum cumulative GPA to take qualifying exams |
| B | 3.0 | Rackham minimum for pre-candidate and MS cumulative |
| B- | 2.7 | CLaSP lowest passing grade for individual classes |
| C+ | 2.3 | |
| C | 2.0 | |
| C- | 1.7 | |
| D+ | No credit | |

CLaSP Master's Courses and Curriculum

Master of Engineering (MEng)

Master's of Engineering programs (MEng) are administered by the College of Engineering (CoE). CLaSP offers two different MEng degrees: Applied Climate or Space Engineering concentrations. Sample schedules are below. Detailed information for Applied Climate program is here:

<https://clasp.engin.umich.edu/academics/graduate-studies/masters-program/the-master-of-engineering-degree-in-applied-climate/>

and Space Engineering:

<https://clasp.engin.umich.edu/academics/graduate-studies/masters-program/masters-space-engineering/>

| Master of Engineering: Space Engineering | | |
|--|---------|--------------|
| Core Courses (Required) | Credits | Term Offered |

Updated July 2022

| | | |
|---|----------------|---------------------|
| Space 478 – Engineering for Space Environment | 4 | FA |
| Space 581 – Space System Management | 3 | FA |
| Space 582 – Spacecraft Technology | 4 | FA |
| Aero 583 – Space System Design | 4 | WT |
| Space 590 – Space System Projects | 4 | FA/WT |
| Climate/Space 749 or Aero 585 - Seminar | 1 | FA/WT |
| | | |
| Concentration Elective Examples (Select 2 Courses)* | | |
| Aero 535 – Space Propulsion | 3 | FA |
| Aero 548 – Astrodynamics | 3 | FA |
| Aero 575 – Flight and Trajectory Optimization | 3 | WT |
| Space 584 – Instrumentation and Analysis Techniques | 4 | WT |
| Climate 585 – Intro to Remote Sensing & Inv Theory | 3 | WT |
| | | |
| Breadth Electives (6 Credits) | | |
| <i>Select two courses with your faculty advisor</i> | 6 | TBD |
| | | |
| Total Required for Graduation | 31 | |
| *Other courses may be petitioned to count as Concentration Electives. Please speak with your faculty advisor. | | |
| Master of Engineering: Applied Climate | | |
| Core Courses (Required) | Credits | Term Offered |
| Climate 586 – Climate Data Analysis | 3 | FA |
| Climate 588 – Regional Climate Scale | 4 | WT |

| | | |
|---|----|-------|
| Climate 591 – Climate Practicum I | 4 | FA |
| Climate 592 – Climate Practicum II | 4 | WT |
| NRE 541 or 531 – Remote Sensing/Principles of GIS | 4 | FA/WT |
| | | |
| Concentration Electives (6 credits) | | |
| TBD with Advisor | 6 | TBD |
| | | |
| Breadth Electives (6 Credits) | | |
| TBD with Advisor | 6 | TBD |
| | | |
| Total Required for Graduation | 31 | |

*Master of Science (MS)

Our MS in Atmospheric and Space Sciences is designed for those interested in receiving a terminal MS degree. For more detailed information for the MS in Climate and Space Sciences and Engineering:

<https://clasp.engin.umich.edu/academics/graduate-studies/masters-program/masters-atmospheric-and-space-sciences/>. Please contact your advisor for course selection as it varies with each person. General requirements are listed below.

- Students must complete a total of 30 credit hours at 400-level or above.
- 15 credits must be CLaSP courses. The remaining 15 credits can be taken outside of the department, but must be within the College of Engineering.
- Student must maintain a cumulative GPA of 3.3.

* Unlike MEng students which follow policies set by the CoE, MS students follow policies outlined by the Horace H. Rackham School of Graduate Studies (<http://www.rackham.umich.edu/>).

* Ph.D. students can earn an embedded MS degree while completing their Ph.D. requirements. If interested, speak with your advisor.

CLaSP PhD Courses, Curriculum, and Requirements

*Doctor of Philosophy (PhD)

CLaSP offers a PhD program in Climate and Space Sciences and Engineering with the option of a concentration in Geoscience and Remote Sensing. Sample course schedules and more detailed information are available at

<https://clasp.engin.umich.edu/academics/graduate-studies/phd-program/>. **For information and resources specific to PhD students (including funding, a sample timeline, FAQs, etc.), please see Appendix C.**

Pre-Candidate versus Candidate

Ph.D. students are “pre-candidates” prior to taking the Ph.D. qualifying exam, and “candidates” after they have passed the qualifying exam. The qualifying exam schedule is determined by CLaSP faculty and is administered by the Qualifying Exam committee. The expectations for Ph.D. pre-candidates is that they are completing coursework and research to determine if they will remain in the Ph.D. program.

Typical coursework expectations for both pre-candidates and candidates include:

| | Pre-Candidate | Candidate |
|---|--|--|
| Minimum credit hours per semester for full time students | 9 credits for student with a GSRA or fellowship 6 credits for students working as a GSI or GSSA | 8 credits for student with a GSRA or fellowship 6 credits for students working as a GSI or GSSA |
| Maximum Course Enrollment Credits | Check with grad coordinator | *4 credits |
| Minimum Research Credit Enrollment | Climate/Space 990 – 0 cr | Climate/Space 995 – 8 cr |

*Speak with your faculty advisor if you would like to take more than 4 credits. This would result in increased tuition.

The following courses need to be completed before advancing to candidacy.:

Updated July 2022

| PhD: Climate and Space Sciences and Engineering | | |
|--|----------------|---------------------|
| Core Courses (Required) | Credits | Term Offered |
| Climate/Space 551 – Advanced Geo Fluid Dynamics | 4 | FA |
| Climate 532 – Radiative Transfer | 4 | WT |
| Climate/Space 747 – Student Seminar (take twice - WT22 and later) (take once FA22 and forward) | 1 | FA |
| Climate/Space 748 - Student Seminar (take once FA22 and forward) | 1 | WT |
| Climate/Space 749 – Department Seminar (take twice) | 1 | FA/WT |
| | | |
| Electives (6 credits) | | |
| <i>Select 400-level or higher course(s) with advisor</i> | 6 | TBD |
| | | |
| Cognates (3 credits)** | | |
| <i>Select course(s) with your faculty advisor</i> | 3 | TBD |
| | | |
| Total Required for Ph.D. Candidacy | 21 | |

**PhD students follow policies outlined by the Horace H. Rackham School of Graduate Studies (<https://rackham.umich.edu/policy/section4/#4-1> (section 4.1)).

Summary of candidacy requirements

(note that CLaSP requirements may vary, and that departmental requirements supercede Rackham requirements)

1. **Bachelor's degree or equivalent.** The U-M transcript must show a bachelor's degree or equivalent awarded by an accredited institution.
2. **Minimum Rackham grade point average.** A cumulative minimum GPA of B (3.0 on a 4.0 point scale) is required for all graduate work taken for credit. Programs may require a higher minimum cumulative GPA or a minimum grade for specified coursework.

3. **Coursework in residence.** Students must complete at least 18 credit hours of graded graduate coursework (including the grade of S – Satisfactory) registered as a Rackham student while in residence on the Ann Arbor campus. Courses elected as visit (audit) do not meet this requirement, neither do courses designated as 990, with “preliminary” in the title, or those taken while registered under another school/college at U-M.
4. **Cognate requirement.** Before advancing to candidacy students must complete 3 credit hours of cognate coursework with a grade of B- or better; certain graduate programs may have additional cognate requirements ([section 4.1](#)).
5. **Qualifying examination.** A student must pass the qualifying exam (see next section). Note that CLASP requires a 3.3 GPA to schedule the qualifying exam.

Qualifying Exams (“the Quals”)

A new qualifying exam procedure was implemented in January 2020. Students who entered the doctoral program prior to Fall 2019 should follow the old system (2-step qualifying exam process) and those who entered in Fall 2019 and more recently should follow the new system (1-step qualifying exam process).

New Exam Process (for those entering Fall 2019 and forward)

A summary of the qualifying exam procedures

https://clasp.engin.umich.edu/wp-content/uploads/sites/6/2021/06/QualsProcedures_202001.pdf

Timeline Range - During second academic year; Exam is offered in September, January, and May

1 Month Prior - Notify Qualifying Exam Committee Chair and Graduate Coordinator of intention to take exam (i.e. by August 1 for a September exam, by December 1 for a January exam, by April 1 for a May exam); Consider scheduling a mock exam with GUSO

1 Week Prior - Submit written report and joint statement signed by student and advisor describing each person’s contribution to the report to committee and Graduate Coordinator

Post Exam - Qualifying Exam Committee Chair will send the outcome via a formal notification email and the Graduate Coordinator will work with the student to submit Rackham’s Advancement to Candidacy Form

Ph.D. Candidacy and the Dissertation

Once you complete your qualifying exam and have achieved Ph.D. candidacy, it is time to prepare for your dissertation. Rackham provides a variety of resources to help prepare you for this.

After your qualifying exams:

- Form your dissertation committee at least six months prior to your oral defense. Please review Rackham's guidelines for dissertation committee service:
<https://rackham.umich.edu/faculty-and-staff/dissertation-committees/guidelines-for-dissertation-committee-service/>
- Submit your completed Dissertation Committee Worksheet (<https://www.rackham.umich.edu/downloads/oard-dissertation-committee-worksheet.pdf>) to CLaSP's Graduate Coordinator
- Talk to your advisor once you've formed your dissertation committee
- Plan a timeline including projected publications and graduation
- Rackham timeline:
<https://rackham.umich.edu/navigating-your-degree/dissertation-timeline/>. Applies once your committee is formed
- Rackham requires a pre-defense review at least three weeks from your oral defense and a post-defense submission. Details can be found here:
<https://rackham.umich.edu/navigating-your-degree/completing-doctoral-degree-requirements/>

General advice from students:

- Develop good writing habits
 - Set time aside for writing
 - Set daily writing goals
 - Follow format guidelines:
<https://rackham.umich.edu/navigating-your-degree/formatting-guidelines/>
- Have a graduation date to plan around
- Pay attention to deadlines!

Sample Ph.D. Program Timeline

Note that this is a general guideline and that individual pathways will vary.

| What | When | Considerations |
|-----------------------------|------------------------------|---|
| Matriculation | Pre-PhD | <ul style="list-style-type: none"> - Keep in touch with advisor(s) - Think about starting research |
| Semester 1 | September – December, Year 1 | <ul style="list-style-type: none"> - Begin applying for fellowships - Schedule RCRS workshops - Consider attending conferences |
| Semester 2 | January – April, Year 1 | <ul style="list-style-type: none"> - Research certificate programs - Begin thinking about Qualls |
| First Summer | May – August, Year 1 | <ul style="list-style-type: none"> - Independent research - Attend workshop or conference - Start writing dissertation outline |
| Qual Exam | Year 2 – 3 | <ul style="list-style-type: none"> - Advance to candidacy - Course-load reduced to 4 credits |
| Second Summer | May – August, Year 3 | <ul style="list-style-type: none"> - Same as previous summer - Focus on developing dissertation |
| Semester 5 | Year 3 | <ul style="list-style-type: none"> - If you'd like to be a GSI, this is a good year to do it |
| Writing Your Thesis | Year 4 – 5 | <ul style="list-style-type: none"> - Buckle down and write |
| Dissertation Defense | Year 4-5+ | <ul style="list-style-type: none"> - Congratulations! |

Support and Resources

The University and CoE provide a broad range of academic, technical, personal, and departmental support and resources to assure your success.

Advisors (See Appendix B)

- The **Academic Advisor** is your **primary contact** for advising related issues; course planning; advocacy and liaison with the department.
- The **Graduate Student Coordinator** is your contact for student payment issues; admission questions; defense and qualifying exam arrangements.
- **Faculty Advisors** serve as point people for issues specific to the program they are advising. MEng students have a program advisor. Advisors can help navigate issues specific to career goals: becoming more marketable and finding research opportunities. In addition, all PhD and MS students are assigned individual faculty advisors to support research activities.

Academic

- **Art, Architecture & Engineering Library** (<https://www.lib.umich.edu/art-architecture-engineering-library>) located in the Duderstadt Center, this library is the closest to the CSRB. It offers a variety of services such as book rental, multimedia loans, printing and copying, study room reservations, etc.
- **CoE Bulletin** (<https://bulletin.engin.umich.edu/>) includes answers to a broad range of academic questions, college degree requirements, department degree requirements, academic rules, student rights and responsibilities, and course listings for each academic department
- **Engineering Career Resource Center (ECRC)** (<https://career.engin.umich.edu/>) includes career fairs, counseling appointments (resume review, mock interviews, negotiating job offers), workshops (career fair/interview prep, resume building, job search strategies), engineering careers, by Symplicity (co-op, internship, and full-time positions)
- **C.A.R.E. Center (Consultation, Assistance, and Resources in Engineering)** (<https://care.engin.umich.edu/>) includes personal student support (helps students navigate the complexity of campus life - both personal and academic issues), critical incidents (supports students facing significant and urgent life events), Campus Mind Works drop-in wellness groups, and administration for the Scholastic Standing Committee and Honor Council
- **Registrar's Office** (satellite location in basement of Pierpont) (<http://ro.umich.edu/>) includes academic calendar and withdrawal deadlines (important!), ordering transcripts and diplomas, degree verification, enrollment and registration information, tuition and fees information, schedule of classes, and student records

- **Sweetland Center for Writing** (<https://lsa.umich.edu/sweetland/>) includes writing workshops, Dissertation Writing Institute, writing group and more.

Technical

- **Advanced Research Computing Technology Services (ARC-TS)** (<https://arc-ts.umich.edu/>) provides high-performance computing resources and consulting
- **CSRB IT Support** (clasp-it-services@umich.edu) helps with any Department IT issues, projectors, and classroom computers
- **Canvas** (<https://canvas.umich.edu/gateway/>) is an online portal for courses. Lecture slides, assignments, syllabi, and course materials are posted here.
- **Computer-Aided Engineering Network (CAEN)** (<https://caen.engin.umich.edu/>) includes computer lab support throughout the CoE, printing (CoE students enrolled in courses receive \$40 printing allocation each full-term). Learn more at <https://caen.engin.umich.edu/printing/>, and online file storage
- **Information Technology Services (ITS)** (<http://its.umich.edu/help>) includes issues with Wolverine Access, log-in password resets, umich email/calendar problems, and MCommunity issues

Personal

- **Counseling and Psychological Services (CAPS)** (<https://caps.umich.edu/>) has its main office located in the Michigan Union. However, there is an embedded counselor for the CoE located in 145B Chrysler Center (<https://caps.engin.umich.edu/>). CAPS provides free and confidential mental health services for currently enrolled students. Typical reasons for seeking counseling may include (but are not limited to) depression, anxiety, academic/performance concerns, adjustment difficulties, self-esteem, family issues, and other relational concerns. The web-page contains many useful resources and information.
- **Psychiatric Emergency Service (PES)** (<https://medicine.umich.edu/dept/psychiatry/patient-care/psychiatric-emergency-service>) includes emergency/urgent walk-in psychiatric evaluations 24/7, treatment recommendations, and crisis intervention. *In an emergency, call 9-1-1. Campus Police will transport to PES.*
- **School of Dentistry** (<http://www.dent.umich.edu/patients>) provides general and specialty dental care.
- **Sexual Assault Prevention and Awareness Center (SAPAC)** (<https://sapac.umich.edu/>) holds a 24-hour Crisis Line at (734) 936-3333 that offers individual and group counseling for survivors of sexual assault, domestic violence, stalking, and sexual harassment.

- **Services for Students with Disabilities (SSD)** (<https://ssd.umich.edu/>) includes services for students with visual, hearing, mobility impairments, or learning disabilities and, if registered with the SSD, appropriate accommodations to aid in their academic success.
- **Spectrum Center** (<https://spectrumcenter.umich.edu/>) provides education, information, and advocacy services for LGBTQ+ students, staff, faculty, and members of the local community. The Center is dedicated to maintaining UM as a safe and inclusive environment for sexual and gender minorities.
- **Students of Color of Rackham (SCOR)** (<https://www.scor-umich.com/>) promotes the professional, social, and cultural growth of UM's graduate community of color, and is committed to the development of diversity and nondiscrimination policies.
- **University Health Service (UHS)** (<https://uhs.umich.edu>) provides general medical services ranging from immunizations to eye care for most currently enrolled students, with few or no out-of-pocket expenses. Visit their website to obtain a full list of services.
- **University of Michigan Hospital** (<http://www.uofmhealth.org/maps-directions/medical-center>) is the closest hospital to campus and is home to a wide range of medical specialists. Emergency Room: 1500 E Medical Center Dr. Floor B1, Room B1C255, Ann Arbor, MI 48109, 734-936-6666.
- **Rackham Conflict Resolution:** (<http://www.rackham.umich.edu/students/campus-guide/resolution>) offers graduate students and postdoctoral fellows formal and informal dispute resolution services, provides resources and referrals, and can offer alternative resolutions in consultation with other offices as appropriate.

Social Media

- **Facebook Groups**
 - Any current student can grant access to CLaSP's student Facebook group (<https://www.facebook.com/groups/1736426366585545/>)
 - CLaSP Department (<https://www.facebook.com/umclasp/>)
 - College of Engineering (<https://www.facebook.com/michigan.engineering/>)
- **Twitter**
 - CLaSP Department (<https://twitter.com/umclasp>)
 - Michigan Engineering (<https://twitter.com/UMEngineering>)

International Students

- **English Language Institute (ELI)** (<http://lsa.umich.edu/eli>) offers academic English courses including courses in writing, speaking, reading, pronunciation, and grammar. ELI also offers an array of resources to aid international students in their academic success.
- **Graduate Rackham International (GRIN)** (<https://maizepages.umich.edu/organization/GRIN>) is an inclusive and diverse student-run organization aimed at improving the experience of all international graduate students at the UM.

- **International Center** (<https://internationalcenter.umich.edu/>) serves all international students in areas such as: Visa applications, immigration check-in, F-1 and F-2 related business, health insurance, applying for a Social Security number/Michigan driver's license, and summer workshops and orientation. Also provides students resources for preparing and filing tax forms.
- **Language Resource Center (LRC)** (<https://lsa.umich.edu/lrc/resources/>) offers international students support in finding and using tools and media for language learning, tutors and conversation partners, help with in-class projects, as well as training and workshops.

Departmental

- **Department Seminars** held every Thursday at 3:30pm in the auditorium (CSRB 2246)
- **Coffee and Tea Hours** held daily at 3:00pm in CSRB Lounge
- **Weather Discussions** held at locations and times that change every semester
- **Ladies Lunch** held monthly to gather women students and allies of CLaSP together over lunch to discuss experiences and problems that women face in academia. These are accompanied by invited speakers from various departments.

Extra-Curricular and Co-Curricular Organizations



CLaSP faculty and students enhance their professional and educational experience through participation in the following organizations.

The department faculty members and staff work closely with the first three groups listed below. GUSTo sponsors many events throughout the year that are of interest to all CLaSP students. All students are strongly encouraged to get involved.

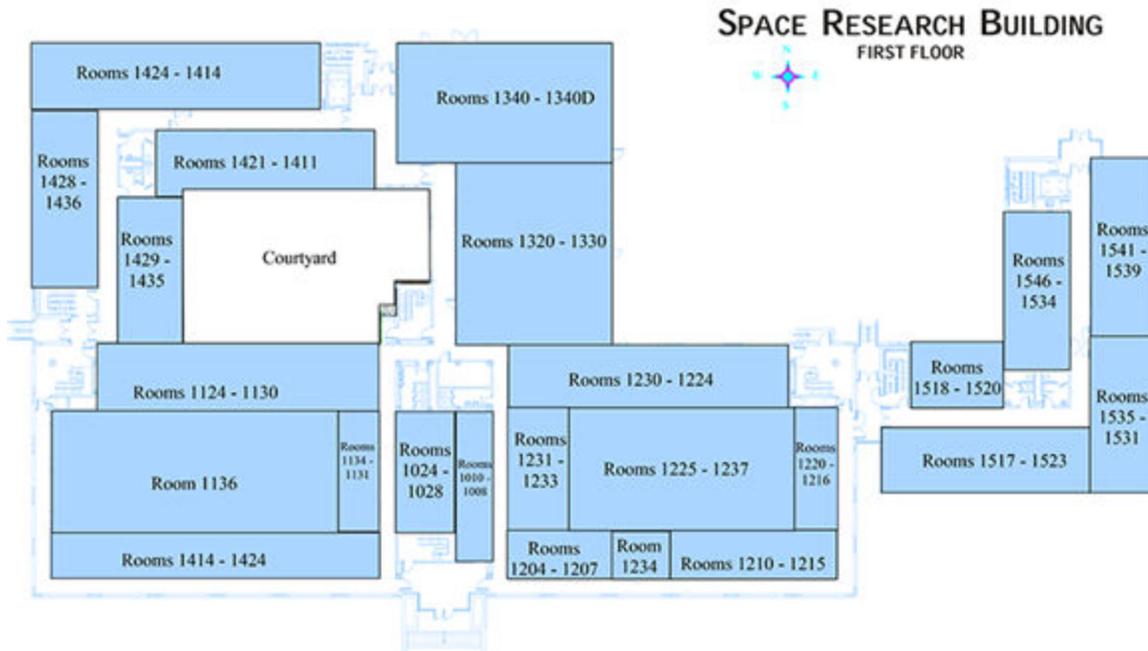
- **Graduate Undergraduate Student Organization (GUSTo)** (<http://clasp.engin.umich.edu/academics/resources/gusto>) includes events within the department that foster a sense of community, opportunities for CLaSP students to grow academically and professionally, and support of various events throughout the year
- **American Meteorological Society (AMS)** (<https://www.ametsoc.org/ams/>) under faculty lead, Dr. Frank Marsik, includes professional organization promoting information about the atmospheric, oceanic, hydrologic sciences and annual national meetings
- **Climate Blue** (<https://climateblue.org/>) unites, educates, and empowers their members by making them more knowledgeable about climate change science, policy, and its impacts on the community
- **CoE Graduate Student Advisory Committee** (<https://studentaffairs.engin.umich.edu/graduate-student-advisory-committee/>) offers two

graduate students per department the opportunity to meet as a group and discuss ideas and concerns pertaining to the issues faced by graduate students, develop programs, advocate for improvements, and create a sense of community in the CoE.

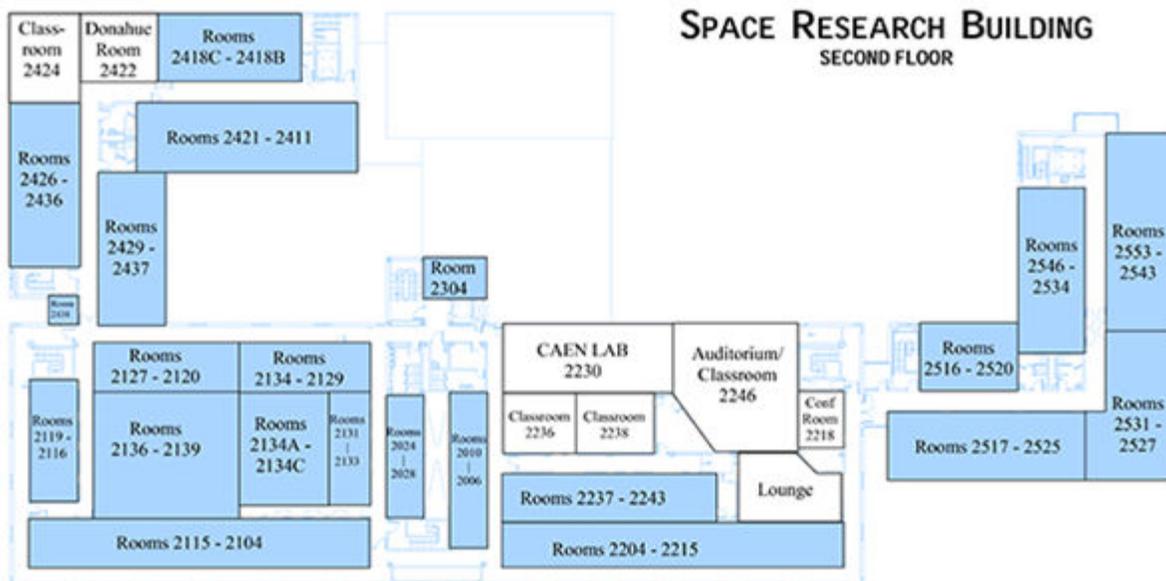
- **Michigan Geophysical Union (MGU)** (<https://clasp.engin.umich.edu/resources/student-groups/michigan-geophysical-union/>) includes forums designed to showcase outstanding graduate and undergraduate student research in the Earth, oceanic, atmospheric, and space sciences; and interdepartmental engagement and dialogue
- **Michigan Mars Rover Team (MRover)** (<https://mrover.org/>) includes design, build, and test a rover for extraterrestrial environments, the annual University Rover Challenge at NASA's Mars Desert Research Station competition, and educational outreach events for students of all ages
- **Michigan University-Wide Sustainability & Environment (MUSE)** (<http://muse-initiative.umich.edu/>) is a research community that encourages diverse perspectives and collaborates toward a sustainable future
- **Grad Society of Women Engineers (GradSWE)** (<http://www.swe.engin.umich.edu/gradswe>) includes the largest career fair on campus, engineering outreach activities, charity events, and networking and professional development
- **Out in Science, Technology, Engineering, and Mathematics (oSTEM)** (<https://maizepages.umich.edu/organization/ostem>) is the local chapter of a national organization that provides networking, professional development, and social activities for LGBTQ+ students and professionals in STEM fields.
- **Student Space Fabrication Lab (S3FL)** (<http://clasp-research.engin.umich.edu/groups/s3fl/>) under CLaSP faculty advisors, Profs. Brian Gilchrist, Aaron Ridley and Mark Moldwin, includes experience with space system design and fabrication, coupling classroom knowledge with practicum experience, and expertise that would otherwise take years of post-graduate experience to achieve. Designed for undergraduates, but MENG students seeking leadership opportunities are welcome.
- **Women in Science and Engineering (WISE)** (<https://wise.umich.edu/>) increases the number of women pursuing degrees and careers in the STEM fields, includes Marian Sarah Parker Scholars Program and provides encouragement and support

Appendix A – CSRB Maps

First Floor

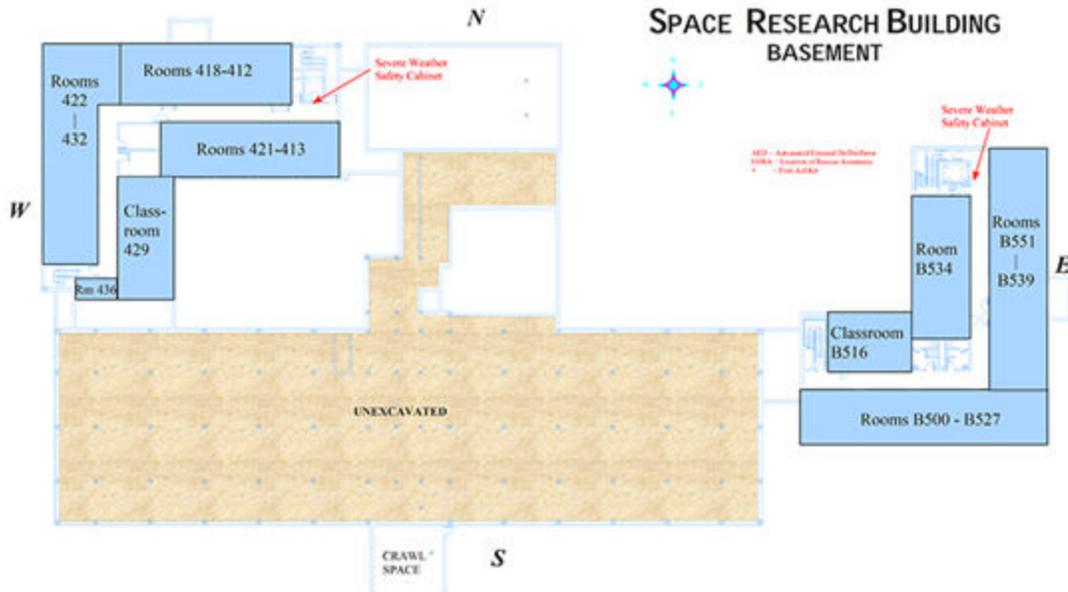


Second Floor



Appendix A – CSRB Maps (continued)

Basement



Appendix B – Advisors and Other Contacts

Advisors



Academic Advisor

Lindsay Coleman, MA

2237 CSRB, 734-764-3282

colemali@umich.edu

Responsibilities include: academic counseling, graduation audits, liaison for GUSTO & AMS student groups, student grievances, event planning, recruiting

****Not a Title IX Responsible Employee***



Student Services Coordinator (Graduate Coordinator)

Claire Miller

734-936-0493

ccdewitt@umich.edu

Responsibilities include: class and room scheduling, course overrides, student payments, admissions, qualifying exam and dissertation scheduling

****Not a Title IX Responsible Employee***



Faculty Advisor - Graduate Program Chair

PhD

Prof. Enrico Landi

Professor and Chair of PhD Program

734-647-3705

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****Title IX Responsible Employee***



Faculty Advisor

MS SUGS in Atmospheric Science

Prof. Frank Marsik

Lecturer III and Associate Research Scientist

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Faculty Advisor

MEng in Space Engineering including SUGS

Prof. Nilton Renno

Professor

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Faculty Advisor

MEng in Applied Climate including SUGS

Prof. Ricky Rood

Professor and Dow Sustainability Distinguished Faculty Fellow

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Faculty Advisor

MEng in Applied Climate including SUGS

Prof. Jeremy Bassis

Associate Professor

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jbassis@umich.edu

***Title IX Responsible Employees** who learn about sexual assault, intimate partner violence, sexual and gender-based harassment, stalking, and violation of interim measures are required to share that information with the Office of Institutional Equity.

Other Contacts

| | | |
|--|--|--|
| Prof. Tuija Pulkkinen Department Chair | 734-764-0392 tuija@umich.edu | Oversees all departmental operations |
| Michael Meister Department Manager | 734-763-7305 mmeister@umich.edu | Manages all department activities and initiatives |
| Prof. Aaron Ridley Associate Chair for Education | 734-764-5727 ridley@umich.edu | Works with faculty and students on undergraduate education programs |
| Prof. Eric Kort Associate Chair for Graduate Education | 734-763-8414 eakort@umich.edu | Works with faculty and students on graduate education programs |
| Prof. Mike Liemohn Faculty Ally for Diversity in Grad Ed | 734-763-6229 liemohn@umich.edu | Departmental Diversity, Equity and Inclusion (DEI) liaison for graduate students |
| Marti Moon Building Facilities | 734-647-3420 mamoon@umich.edu | To submit a workorder, please email clasp-facilities@umich.edu |
| Melissa Priebe Marketing and Communications | 734-548-3204 mfpriebe@umich.edu | Manages CLaSP social media and webpage |

Appendix C – PhD Student Information/Resources

Funding

The CoE operates under a full-funding model for all PhD students.

| | Graduate Student Instructor (GSI) | **Graduate Student Research Assistant (GSRA) | Rackham Merit Fellowship (RMF) | Other Fellowships (NESSF(FINESST)/NSF/SMART/NDSEG) |
|-------------------------|--|---|---------------------------------------|---|
| *Taxes | Depends on candidacy status | Depends on candidacy status, exempt over summers | Must prepay annually or quarterly | Must prepay annually or quarterly |
| Stipend | \$12,027.50 per term for a 50% appointment | \$12,027.50 per term for a 50% appointment | Approx. GSRA rate | Approx. GSRA rate, does vary by fellowship |
| Payment Schedule | End of each month | End of each month | End of each month | External fellowships will send schedule |
| Requirements | Hired for course by instructor | Hired by department/advisor | Nominated by advisor/department | Students apply |

* For more information: <http://finance.umich.edu/finops/payroll/tax>; please note that the department cannot provide tax advice.

** Most incoming PhD students are GSRA's.

Additional Funding Opportunities

- Rackham administered fellowships and grants (<http://www.rackham.umich.edu/funding/rackham>)
- The Rackham Conference Travel Grant (www.rackham.umich.edu/funding/conference-travel-grant)
- The Rackham Professional Development Grant (www.rackham.umich.edu/funding/professional-development-grant)

Responsible Conduct of Research and Scholarship (<http://rcrs.engin.umich.edu/>)

PhD students are required to complete this four-part sequence of workshops before advancing to candidacy.

Graduate Employment Organization

The Graduate Employees' Organization (GEO) is the labor union representing Graduate Student Instructors (GSIs) and Graduate Student Staff Assistants (GSSAs) at the University of Michigan. For more information:

<https://hr.umich.edu/working-u-m/my-employment/academic-human-resources/graduate-student>
<https://hr.umich.edu/working-u-m/my-employment/academic-human-resources/contracts/about-g eo>

<https://www.geo3550.org/>

Leave and Vacation

Maternity and Parental Leave

- Parental Accommodation Periods:
 - GSRA, fellowship recipients, unfunded graduate students:
 - Rackham's graduate student [Parental Accommodation Policy](#)
- GSI and GSSAs:
 - [Graduate Employees' Organization](#) (GEO) current contract's [Parental Accommodation Period](#): (negotiations ongoing as of 2017)
 - Medical leave: 3 weeks/year paid, which you can use for your own illness or injury or to attend a medical appointment or to help a spouse, Other Qualified Adult (OQA), or child.
 - Child-care subsidies: <https://finaid.umich.edu/types-aid/child-care-subsidy>

Leave of Absence

- [Rackham FAQ](#)
- GSI and GSSAs:
 - Graduate Employment Organization contract (negotiations ongoing as of 2017): [Medical Leave, Parental Accommodation Period, Jury or Witness Service, Immigration Proceedings, and Bereavement Leave Pay](#)

FAQs

Information you Need to Know:

- How do I get paid?
 - Typically, students are paid through direct deposit. You can link your bank account to payroll/financial aid through Wolverine Access to take advantage of this. Payments will be posted to your bank account automatically. You can review payments on Wolverine Access and you should get emails when they are processing.
- When do I get paid?

Updated July 2022

- That depends on who is paying you. Typically, your stipend will post once a month; fellowships may pay out on a slightly different schedule. Usually, you will get paid either at the end of the month or twice a month.
- What hours should I work and how do I balance that with my homework?
 - Work with your advisor to decide what will be best. There isn't a typical set number of hours; every student is different! First year students often have to focus more time on coursework than research.
- How many classes should I take? Which ones?
 - For the first two semesters, it is reasonable to take two 4 credit classes and a few seminars. Work with your advisor and the Graduate Student Coordinator to figure out what will be best for you.
- Should I do a certificate? Why?
 - <https://rackham.umich.edu/programs-of-study/certificate-programs/>
 - Work with your advisor and the Graduate Student Coordinator to figure out what will be best for you. Are you interested in it? Is it relevant to your research and/or career goals? Are the requirements achievable for you in a reasonable timeframe?
- When do I start my dissertation?
 - If all goes according to plan, sometime in your third year after passing Step 2 of the Qualifying Exam.
- What is my funding situation?
 - Ask your advisor and the Graduate Student Coordinator. You are funded as a PhD student!
- What is the deal with my health insurance?
 - Every Grad student is provided with health care. You are insured.
- Help I have: a cavity, a healthcare issue, a broken leg etc., where do I go?
 - Central Campus [University Health Services](#) building
 - 207 Fletcher St, Ann Arbor, MI 48109 (use CCTC bus stop)
 - Regular doctor appointments (no co-pay!)
 - School of Dentistry
 - [Healthy Teeth checkup clinic](#)
 - 200 Fletcher, Ann Arbor, Michigan 48109-1078 (use CCTC bus stop)
 - [Eye Care Clinic and Optical Shop](#)
 - [University of Michigan Hospital Complex](#)
 - 1500 E. Medical Center Dr., Ann Arbor, MI 48109, 734-936-4000 (on several bus routes)
 - Emergency Room: 1500 E. Medical Center Dr. Floor B1, Room B1C255, Ann Arbor, MI 48109, 734-936-6666
 - [Counseling and Psychological Services](#)
 - For urgent walk in evaluations and 24/7 phone services: [Psychiatric Emergency Services](#)
 - Crisis phone service: 734-936-5900 or 734-996-4747
 -

- Help: I haven't gotten paid yet!
 - If it hasn't been a full month yet, do not panic; most graduate students are paid at the end of the month. Contact the Graduate Student Coordinator ASAP if it has been longer!
- Help: I don't know where to find food!
 - Pierpont Commons:
 - 2101 Bonisteel Blvd, Ann Arbor, MI 48109
 - North Campus Duderstadt Center
 - Traver Village Shopping Center
 - 2665 Plymouth Rd, Ann Arbor, MI 48105
 - Kroger (groceries): 2641 Plymouth Rd, Ann Arbor, MI 48105
 - Fast food restaurants: Jimmy John's, Domino's, McDonald's
 - Courtyard Shops
 - 1699 N Campus Plaza, Ann Arbor, MI 48105
 - No Thai!, Lucky Kitchen, Wendy's, Cardamom, Subway, Panera
 - Central Campus boasts a wide variety of shops and restaurants. Magic Bus will take you there! Look for buses going to the CCTC.
 - There is a lot of food around CSRB (and events for students on campus). Be on the lookout for emails and fliers about lunches, seminars, and meetings with free food! And hopefully interesting discussions.

Appendix D – CLaSP Probation Policy

Policy for student academic progress, unsatisfactory academic standing, and academic probation and dismissal from Climate and Space Sciences and Engineering (CLaSP) Ph.D. and Master's programs

Students that are progressing towards their degree and meeting academic and research milestones are considered in *good academic standing*. The purpose of this document is to describe the processes and actions the department engages in when problems in academic performance are observed: students not making progress towards their degree or meeting academic and research milestones are notified that they have *unsatisfactory academic standing*. Once a student has been notified of having unsatisfactory academic standing, the student may be placed on *academic probation*. A student on academic probation is given an opportunity to demonstrate satisfactory progress, rectify academic deficiencies and return to good academic standing. At the end of academic probation, and upon the recommendation of the Graduate Program Chair, a student may either be returned to good academic standing or determined to be *not in good academic standing*. Students not in good academic standing may be dismissed from the program. Below, we describe the process through which a student is notified that they have unsatisfactory academic standing, are placed on academic probation, can return to good academic standing or are dismissed from the program.

1. Academic standing and academic probation

1a. Satisfactory academic standing. It is the responsibility of the student's research advisor or faculty mentor to periodically meet with students and discuss academic performance and progress toward their degree. At a minimum of once per year, PhD students and advisors must complete a progress report that specifies key milestones and shared expectations. Good academic standing requires:

- Cumulative GPA above 3.0 on a 4.0-point scale;
- Following ethical and legal rules of the University;
- Passing of the qualifying exam (PhD students need to have a cumulative GPA above 3.3 on a 4.0-point scale to take the qualifying exam);
- Evaluation by the student and advisor or mentor indicates "satisfactory progress".

Students are encouraged to speak to the Academic Advisor and Graduate Chair at any time to address questions about academic standing. Students, research advisors and mentors have opportunities to confirm expectations, progress and express concerns regarding progress through the Annual Progress Report.

1b. Unsatisfactory academic standing. The Graduate School will place a notation of "unsatisfactory academic performance" on the academic record if any of the conditions for good academic standing are not met or a PhD student does not have a research advisor for more than one semester. Students are encouraged to explore different research groups and the Graduate Program Chair and Associate Chair for Graduate Studies can facilitate transitions from one research group to another. A research advisor, however, is a critical component of the PhD and in cases where a PhD student does not have a research advisor for a prolonged

period of time, a student risks falling behind in completing key academic milestones. For this reason, a student without an advisor for more than one semester may also be notified that they are no longer making “satisfactory academic progress”.

1c. Notification of unsatisfactory academic standing. The Advisor or faculty mentor will notify the students and the Graduate Program Chair in writing when a student’s performance is not satisfactory. The Academic Advisor will notify Rackham Office of Academic Records and Dissertations (OARD) when it determines that a student’s performance is unsatisfactory. The unsatisfactory academic performance may be a basis for placing a student on academic probation, described below.

1d. Placing a student on academic probation. The research advisor or faculty mentor, in consultation with the Graduate Program Chair, may recommend that a student be placed on academic probation. The decision to place a student on probation is made by a group of at least three faculty which includes the student’s research advisor, the Graduate Program Chair and at least one member of the Graduate Committee. If the Graduate Chair is also the advisor, one of the other Program Chairs or Associate Chairs will chair the committee.

1e. Funding students on academic probation. While a student is on academic probation, the level of funding prior to probation will continue through the probationary period. Funding during the probation period will be coordinated by the student’s advisor or mentor in discussion with the graduate chair.

1f. Length of the probationary period. The length of the probation period will typically be 1 semester, but longer or shorter probation periods can be proposed at the discretion of the committee placing the student on probation to give the student time and resources to return to good academic standing. However, the minimum length of the probationary period is two months (of the fall or winter term); it will typically conclude at the end of that term. For a student placed on probation within two months of the end of the fall term, the probationary period will extend into the winter term for a total of at least two months. For a student placed on probation within two months of the end of the winter term, the probationary period may include the spring or summer half-terms for a total of at least two months. A student may be placed on probation starting in the spring or summer half term for a minimum of two months, and does not need to be enrolled during these half terms.

1g. Notifications. The Graduate Chair must notify the student and Rackham OARD in writing before the probationary period begins, explaining the reasons and conditions of probation; the start and end dates of the probationary period; funding support; conditions for returning to satisfactory standing; and options for appeal. The research advisor or faculty mentor, in consultation with the Graduate Program Chair, must provide the student, in the probation letter, clear and achievable milestones along with a performance improvement plan, which, if completed, will allow the student to return to good academic standing.

1h. Leave and student withdrawal when on academic probation. A student who has been placed on probation may request a leave of absence from Rackham or withdraw. The leave or withdrawal will stop the clock on the probationary period, which resumes when the student returns to active status or is reinstated. The leave of absence can be granted for medical or personal reasons independent of the probation, but not shall not be taken solely to stop the clock on the probation period. Probation will remain in effect until the student returns to good academic standing or the student is dismissed.

1i. Performance improvement plans to return to good academic standing. When a student is notified of unsatisfactory academic standing or is placed on academic probation, the advisor or mentor together with the student will develop a performance improvement plan to address deficiencies in research and/or coursework. This plan will be provided in writing by the advisor to the Graduate Program Chair, who will approve the plan. The advisor, student and Graduate Program Chair will then meet to discuss the plan and timeline—typically one semester—to meet the specified criteria. This meeting shall take place within one month of the notification to the student.

2. Dismissal

2a. Dismissal of doctoral students for academic reasons. Dismissal can occur (1) at the end of the academic probation period if the requirements to regain academic standards are not met, or (2) if a student does not pass the qualifying exam. At the end of probation period, and upon the recommendation of the Graduate Program Chair and the consent of the Graduate School, a student may either be returned to good academic standing or determined to be “not in good academic standing” and dismissed from the program. The decision to dismiss a student must be made by a group of faculty members comprising the advisor, Graduate Program Chair and at least one member of the Graduate Program Committee. The Graduate Program Chair must notify Rackham OARD of a recommendation for dismissal.

2b. Failing the doctoral qualifying exam. If a student does not pass the qualifying exam on the first attempt, the Qualifying Exam Committee can recommend (1) a second chance for the student to re-take the exam or (2) dismissal. If the Qualifying Exam Committee does not suggest a re-take or the student does not pass the exam on the second attempt, the student will be dismissed without probation at the end of the term during which the qualifying exam is taken. The student will be supported at their current stipend level through the end of the term in which the qualifying exam is failed. If less than two months remain, including summer half-terms, support will continue at the current stipend level for a total of at least two months, however students will not be registered in the subsequent term so that tuition is not charged.

2c. Option to appeal academic probation or dismissal. Students must be notified of options to appeal academic probation or dismissal in the probation or dismissal notification letter. An appeals committee will be formed comprising at least three faculty members, drawing from members of the Graduate Committee who did not serve on the committees that placed the student on probation or recommended dismissal. The clock on the probation period will start after the appeals process is complete. Students are encouraged to use the Graduate School’s Academic Dispute Resolution process for procedural issues of fair and equal treatment under the policy of the program. Students who fail to meet standards of academic or professional integrity or who have been found responsible for violations of other University standards of conduct may be dismissed in accordance with separate procedures described in Rackham Academic and Professional Integrity Policy.

2d. Dismissal of a student. Students who fail to meet standards of academic or professional integrity or who have been found responsible for violations of other University standards of

conduct may be dismissed in accordance with separate procedures described in Rackham Academic and Professional Integrity Policy.

Appendix E – Sexual and Gender-based Misconduct Reporting

This information is adapted from the University of Michigan website [here](#).

All members of the U-M community are encouraged to report sexual and gender-based misconduct to the university, to the police or both. In this section, you can find out about how to report to the university and/or to law enforcement, and about how the university handles the reports it receives. All of the confidential resources listed on these links for [students](#) and [faculty and staff](#) are available to you whether or not you decide to make a report.

Reporting to the University

At U-M, the Office of Institutional Equity (OIE) oversees all reports of sexual or gender-based misconduct. If you have experienced sexual or gender-based misconduct, you may report the incident and request an investigation. OIE staff members are specially trained to work with individuals who report misconduct and have knowledge about on- and off-campus resources, services and options.

Read more on reporting to the University [here](#).

Reporting to the Police

U-M also encourages you to consider reporting incidents of sexual and gender-based misconduct, which may also be crimes, to the police. DPSS Special Victims Unit ensures that survivors know their options while being treated with compassion and respect when navigating the criminal justice system. Reporting to the police provides an opportunity for a thorough investigation and may lead to holding the offender accountable.

Read more on reporting to the police [here](#).

Student Resources

Confidential resources to help you understand your rights and options.

[Sexual Assault Prevention and Awareness Center \(SAPAC\)](#)

For U-M students, faculty and staff who are survivors of sexual assault, relationship violence, stalking and sexual harassment. 24-hour crisis line: 734-936-3333.

[Counseling and Psychological Services \(CAPS\)](#)

Free, confidential services for U-M students. 24-hour line: 734-764-8312.

[Office of the Ombuds](#)

Free, confidential advice and resources for U-M students. 734-763-3545.

Non-Confidential Reporting Options

Learn how to get help and make a report [here](#).

Appendix F – PhD Student Teaching Training and Opportunities

For PhD students interested in pursuing careers in academia, there are several programs and opportunities for gaining teaching experience and professional development around education.

Within CLaSP, graduate students can GSI for courses (within CLaSP, ENGR or other departments such as Physics) or co-teach a course with a CLaSP faculty mentor. Your advisor can help find CLaSP GSI positions and discuss with any CLaSP faculty member that is teaching an upcoming course a mentored co-teaching opportunity. This can involve co-development, co-teaching, guest lecturing or observation. Depending on the arrangement – this could have a small stipend or not.

Preparing Future Faculty:

In collaboration with Rackham Graduate School, CRLT offers programs to help graduate students prepare to pursue and succeed in faculty careers. Topics include preparing for the job market, learning about current issues in higher education, tenure and faculty worklife, and effective teaching for a diverse student body.

<https://crlt.umich.edu/programs/pff>

Osher Life Long Learning:

Teach a class, lead a Study or Shared Interest Group

Volunteers teach OLLI classes, lead Study Groups, Shared Interest Groups, organize book discussions, provide foreign language instruction, and much more.

<https://www.oli-umich.org/>

ENGR 580. Teaching Engineering

Prerequisite: doctoral candidate. (3 credits)

Aimed at doctoral students from all engineering disciplines interested in teaching. Topics include educational philosophies, educational objectives, learning styles, collaborative and active learning, creativity, testing and grading, ABET requirements, diversity, equity and inclusion issues.

Workshops and Resources around Teaching:

The Center for Research on Learning and Teaching in Engineering (CRLT-Engin) represents a partnership between the College of Engineering and the [CRLT](#). Established in 2004, CRLT-Engin promotes evidence-based practices in engineering education so that students and instructors from diverse backgrounds and social identities can learn and thrive. By working with individuals, departments, and the College, we cultivate a strong community of engineering educators who strive for excellence in teaching, innovate in teaching-learning environments, and investigate the impact of educational initiatives on student learning.

NEXUS Resources for Instructional Technology

Nexus is here to support a thoughtful, planned approach for online and blended teaching that supports the quality of a Michigan Engineering education. This site offers guidance, resources, and best practices for effective online pedagogy, high production quality courses, and substantive faculty and student engagement.

<https://nexus.engin.umich.edu/teach/resources/>

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