

Materials Science Graduate Student Handbook 2025 – 2026



College of Engineering

School of Nuclear Science and Engineering

SCOPE OF THE DOCUMENT

The purpose of the Materials Science Graduate Student Handbook is to serve as a guidance for graduate students (M.Eng., M.S., Ph.D.) and faculty who are part of the Materials Science program at Oregon State University.

CONTACT INFORMATION

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*The Materials Science (MatSci) program at Oregon State University is an interdisciplinary program with students and faculty spread across different schools and colleges within OSU. Every student enrolled in the MatSci program may reach out to Amy K. Thomson for advice with regards to matters related to the MatSci program, regardless of the home unit of the student's faculty advisor.

TABLE OF CONTENTS

SCOPE OF THE DOCUMENT.....	1
CONTACT INFORMATION.....	1
1. WELCOME	4
2. INTRODUCTION.....	5
A. MATERIALS SCIENCE GRADUATE PROGRAM	5
B. ROLES OF FACULTY AND STAFF WITHIN THE PROGRAM.....	5
3. STUDENT CODE OF CONDUCT	7
4. ACADEMIC REQUIREMENTS.....	8
A. ACADEMIC PROGRESS.....	9
B. DEGREE TIMELINES	9
C. MASTER OF ENGINEERING (M.ENG.) DEGREE REQUIREMENTS.....	10
i. M.Eng. Degree Course Requirements.....	10
ii. M.Eng. Graduate Committee.....	11
iii. M.Eng. Program of Study.....	11
iv. M.Eng. Summative Exam	12
D. MASTER OF SCIENCE (M.S.) DEGREE REQUIREMENTS	13
v. M.S. Degree Course Requirements.....	13
vi. M.S. Graduate Committee	14
vii. M.S. Program of Study	15
viii. Project-Based M.S. degree.....	15
ix. M.S. Thesis/Project Defense	16
x. M.S. Degree Progression Flowchart.....	17
E. DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE REQUIREMENTS	18
i. Ph.D. Degree Courses Requirements.....	18
ii. Ph.D. Graduate Committee.....	19
iii. Ph.D. Program of Study.....	19
iv. Ph.D. Qualifier	20
v. Ph.D. Preliminary Examination	21
vi. Ph.D. Dissertation Defense	22
vii. Ph.D. Degree Progression Flowchart	23
F. OPTIONS.....	24

i.	Advanced Manufacturing	24
G.	ADDING A MINOR OR REQUESTING DUAL MAJORS	25
i.	Graduate Minor in Materials Science	25
H.	COURSE REGISTRATION	25
i.	Full-Time vs. Part-Time Enrollment	26
I.	MANDATORY ETHICAL RESEARCH TRAINING	27
J.	SELECTING AND SWITCHING MAJOR ADVISORS	27
i.	Advisor Selection.....	27
ii.	Switching Advisors	28
K.	ANNUAL STUDENT PROGRESS REVIEW	28
5.	GRADUATE ASSISTANT GUIDE	29
A.	GRADUATE TEACHING ASSISTANTS (GTAs)	29
i.	Types of GTA Duties	29
ii.	GTA Space	30
iii.	GTA Training and Resources	30
iv.	GTA Additional Resources.....	31
B.	GRADUATE RESEARCH ASSISTANTS (GRAs).....	32
i.	General Expectations	32
ii.	Safety	32
6.	ACADEMIC GRIEVANCES	33
7.	OTHER HELPFUL INFORMATION AND RESOURCES.....	34
A.	BUILDING ACCESS (KEYS & AFTER-HOURS PASS).....	34
B.	GRADUATE STUDENT OFFICE SPACE/DESKS.....	34
C.	STUDENT HEALTH SERVICES	35
i.	Health Insurance	35
D.	INFORMATION FOR INTERNATIONAL STUDENTS	35
E.	STUDENT CLUBS.....	35
F.	FACILITIES/EQUIPMENT AVAILABLE	35
G.	SOFTWARE RESOURCES/CITRIX/PRINTING/SHARED COMPUTER LABS	36
H.	OSU VALLEY LIBRARY'S RESOURCES	36

1. WELCOME

Welcome to the Materials Science (MatSci) Program at Oregon State University (OSU). Material Science at OSU dates back to at least 1913. What is now Batcheller Hall originally housed the School of Mines, which was comprised of four departments: Mining & Metallurgical Engineering, Ceramics, Chemical Engineering, and Economic & Mining Geology. The Master of Science (M.S.) degree in Materials Science was established in 1989 and the Doctor of Philosophy (Ph.D.) degree in 2001. The coursework-only Master of Engineering (M.Eng.) degree was approved in 2022. Currently, there are 27 core faculty members who advise more than 30 graduate students in the Materials Science program at OSU. Research funding comes from a wide range of sources, including the National Science Foundation, the Office of Naval Research, and the Department of Energy. Materials research at Oregon State University is undergoing rapid growth and we are excited to welcome you as a part of it.

This handbook is intended to familiarize you with our program and answer some of the questions you might have as a new graduate student here at OSU. If, after reading the contents, you still have unanswered questions, please feel free to ask for help. The staff, faculty, and fellow graduate students in the program are available and willing to help solve any issues as they arise. Although most of the information on deadlines, procedures, and requirements is covered in this handbook, additional information can be found in the current Oregon State University Graduate Catalog as well as the Office of Graduate Education's New Graduate Student Guide, which can be found on the Office of Graduate Education website: <https://graduate.oregonstate.edu/current-students/new-graduate-students>. Much of the information in the handbook is also available on the MatSci Program website: <https://engineering.oregonstate.edu/materials-science>.

The current administrative home of the MatSci Program at OSU is in the School of Nuclear Science and Engineering (NSE) within the College of Engineering (COE). Information about graduate programs in NSE (including the MatSci program) can be found on its website (<https://engineering.oregonstate.edu/NSE>).

The faculty and staff in the Materials Science program at OSU hopes that your time at OSU will be rewarding, memorable, and fruitful.

2. INTRODUCTION

A. MATERIALS SCIENCE GRADUATE PROGRAM

The MatSci Program at OSU is spread over many different schools/departments spanning three colleges. Students may earn M.Eng., M.S. and/or Ph.D. degrees in Materials Science in many different focus areas, including all classes of materials, and in a wide range of materials behavior. The coursework requirements are extremely flexible to allow students to tailor their program of study to directly support their interests.

Officially, the School of Nuclear Science and Engineering (NSE) is considered the home academic unit of all MatSci students. MatSci faculty, however, may belong to academic units across or outside of the College of Engineering. Regardless of these administrative homes, MatSci students and faculty can pursue research in any area related to Materials Science. The College of Engineering oversees the whole program and provides funds to administer the program. The School of NSE provides administrative support to our students and faculty in the areas of advising, MatSci graduate teaching appointments and graduate research appointments for faculty within NSE, and administrative support for incoming fellowships and other awards. Feel free to use these resources as a student of the MatSci program, regardless of your advisor's academic home.

B. ROLES OF FACULTY AND STAFF WITHIN THE PROGRAM

Vincent Remcho, vince.remcho@oregonstate.edu, serves as the Interdisciplinary Graduate Program Director for Materials Science in the College of Engineering. The MatSci director is responsible for promoting excellence in graduate education, advocating for graduate students in the program, overseeing the fair and equitable distribution of TA positions, resolving conflicts between faculty mentors and students among many other tasks. The Director will sign all Office of Graduate Education documents (e.g., program of study, exam documents, graduate faculty nominations) where "Program Director/Chair/Head" is required.

Amy K. Thomson, amy.k.thomson@oregonstate.edu, serves as the Graduate Program Coordinator for NSE. The Graduate Program Coordinator helps with general advising questions, reviews programs of study, and is a great first point of contact for any concerns or questions you have. Amy serves as the liaison to the Office of Graduate Education for administrative paperwork related to degree completion and is a good person to go to if you need clarification on any program or Office of Graduate Education policies.

The Materials Science Graduate Program Committee (GPC) consists of a mix of MatSci Faculty across OSU. The current committee members are listed below:

- John Conley, John.Conley@oregonstate.edu, (EECS)
- Liney Arnadottir, Liney.Arnadottir@oregonstate.edu, (CBEE)
- Vince Remcho, Vince.Remcho@oregonstate.edu, (Chemistry), current Director
- Tianyi Chen, Tianyi.Chen@oregonstate.edu, (NSE)
- Megumi Kawasaki, Megumi.Kawasaki@oregonstate.edu, (MIME)
- Julie Tucker, Julie.Tucker@oregonstate.edu, (MIME), past Director

The chair of the committee is the current program Director, Vince Remcho. This committee oversees curriculum changes, graduate faculty nominations, procedures and processes within the program, and spending of programmatic funds. Major program decisions are brought to the entire MatSci Faculty for approval.

3. STUDENT CODE OF CONDUCT

The primary purpose of the Code of Student Conduct is to establish standards and procedures necessary to maintain a community conducive to learning, whether on-campus or online, and to advance the educational objectives of Oregon State University. The Code of Student Conduct promotes an environment that values inclusivity and respectful discourse. Oregon State University's student conduct code applies to *all* students who take classes through Oregon State University regardless of location, either on-campus or online. Whether you're enrolled in an Ecampus online degree program or an on-campus student taking one online class, you are held accountable to the same student conduct regulations.

OSU's Student Conduct Code is based on the belief that all persons should treat one another with dignity and respect for scholarship to thrive. Acknowledging that learning occurs in a multitude of places, OSU believes a set of community standards develops professionalism and decision-making in all students. OSU encourages exemplary conduct by balancing the rights of the individual student with responsibility to the larger community. Choosing to join the OSU community as a student obligates each member to a code of responsible behavior.

All students must read and adhere to OSU's Student Code of Conduct (<https://studentlife.oregonstate.edu/studentconduct>). The MatSci program at OSU aims to foster an all-inclusive, welcoming environment for all students, faculty and staff. Instances of racism, homophobia or discrimination of any kind will not be tolerated. Strict disciplinary action will be taken against individual(s) engaging in this behavior.

4. ACADEMIC REQUIREMENTS

Oregon State University runs on a four-quarter academic year. Each quarter is eleven weeks long, with the last week reserved for final exams. The academic year officially begins with the Summer Session, but, for the most part, summer is considered as an “extra” term, academically. Most of the policies outlined in this handbook apply to the fall, winter and spring terms. If you are going to be here for coursework or research in the summer, it is your responsibility to find out what expectations are different.

Ultimately, all policies related to the academic regulations are maintained by the Office of the Registrar and the Office of Graduate Education. Students should refer to the appropriate websites for the most up-to-date information on all relevant policies. At Oregon State University, full-time status as a graduate student is defined as enrollment in nine (9) credits per term (fall, winter and spring), with a maximum load of 16 credits. However, full-time status (i.e., a minimum of 9 credits per term) may not be sufficient to qualify for purposes of veterans’ benefits, visa requirements, external fellowships, graduate assistantships, or federal financial aid. Students should check with their funding source to be sure they understand the minimum credits required for their benefit. International students should consult with OSU’s Office of International Services (OIS) for additional information about registration requirements specifically related to their student visa status. Students on graduate assistantships should enroll in twelve (12) credits per term during the 9-month academic year.

As part of the OSU Office of Graduate Education’s Continuous Enrollment policy, every student must register for a minimum of three (3) credits every fall, winter and spring term in which they are seeking a degree. This policy applies to every student, regardless of their location, who will be using university resources (e.g., facilities, equipment, and computing and library services, or faculty or staff time). If a student fails to maintain continuous enrollment, they become inactive and will have to re-apply to their graduate program. If a student is using university resources during summer session to engage in academic or research activities in support of their thesis or degree, they must also register for three credits during that time.

During summer term, a minimum registration of only three (3) credits is required for graduate assistants. Students are responsible for determining whether the minimum 3-credit summer registration fulfills their individual immigration, financial aid, tax liability or other specific needs. If a student does not have an assistantship for summer, then he/she is advised to talk to his/her major professor to decide the course of action. Nevertheless, it is always a good idea to keep your major professor informed in any case.

Furthermore, graduate students are expected to read the academic policies governing graduate students listed on the University website, which include, but are not limited to, the [Office of Graduate Education section of the OSU Catalog](#) on the Office of Graduate Education’s website. The information in this handbook addresses only a few topics within those policies.

Academic Regulations: <https://catalog.oregonstate.edu/regulations/>

The Office of Graduate Education at Oregon State University has a number of policies that affect all graduate students as well as a number of resources for graduate students, as described here: <https://graduate.oregonstate.edu/current-students>

Graduate students in the MatSci program are responsible for complying with the rules of the University, the Office of Graduate Education and their advisor's respective School and College. In some instances, the requirements of the MatSci program might be more restrictive than those of the Office of Graduate Education or the School in which the student belongs. In such cases, the requirements specified by the MatSci program will apply. Considerable effort has been put in compiling the MatSci Handbook keeping academic requirements the same as those mentioned in the Academic Catalog on the OSU Graduate Program website. However, in case of a discrepancy between requirements related to the MatSci program mentioned in this Handbook and those mentioned in the Academic Catalog on the OSU Graduate Program Website, the requirements in the Academic Catalog will take precedence. Materials Science program requirements: <https://catalog.oregonstate.edu/college-departments/engineering/school-mechanical-industrial-manufacturing-engineering/materials-science-meng-ms-phd/>

A. ACADEMIC PROGRESS

A student's academic progress is measured through coursework (including the qualifying exam), summative examinations (M.Eng. Requirements, M.S. Final Oral Exam [thesis or project defense], Preliminary Exam and Ph.D. Final Oral Exam [dissertation defense]), and meeting research project deadlines with their major advisor. Students will be warned if their academic progress is not meeting the requirements, and an academic plan will be developed to get the student back on track in a reasonable time. Barring exceptional circumstances, failure to meet academic progress guidelines in a subsequent quarter will result in dismissal from the student's graduate program, with possible allowance to change degree programs (from Ph.D. to M.S. or M.Eng.). Major professors will provide feedback and consult on warnings and dismissals that are reviewed by the MatSci faculty annually at the end of the Spring term. In addition, unsatisfactory academic progress may result in non-renewal of assistantships. Reminders for deadlines (e.g., program of study, spring academic review) will be sent to students and (when applicable) their advisor. Not meeting these deadlines may result in a hold being put on your account, preventing you from enrolling in the next term.

B. DEGREE TIMELINES

All work toward a master's degree, including transferred credits, course work, thesis (if required), and all examinations, must be completed within **seven** years. All work toward a Ph.D. degree, including transferred credits, course work, thesis, and all examinations, must be completed within **nine** years. Time during which a student is on leave of absence is included in the time limits. Failing to meet these timelines will lead to expiration of coursework (i.e., the student will have to retake the courses on exceeding the time limit).

C. MASTER OF ENGINEERING (M.ENG.) DEGREE REQUIREMENTS

i. M.Eng. Degree Course Requirements

The MatSci Program is designed to allow substantial flexibility for students with broad backgrounds and interests. Official program requirements are available in the [Academic Catalog](#). If there is a conflict between what is stated here and what is presented in the catalog, the catalog requirements take precedent.

The M.Eng. degree offers students the opportunity to pursue advanced study in the field of materials science without also having to complete a research thesis or project. This professional coursework-only degree is concerned with the practical application of specialized, graduate-level engineering knowledge. The M.Eng. degree requires a total of forty-five (45) credits of graduate coursework. The curriculum consists of two fundamental courses, two courses from the core curriculum, at least one materials characterization course, at least one materials processing course, an ethics course, a technical writing course, seminar, and elective coursework. Elective Courses (approved by the Program Director) will be selected by the student under guidance from the advisor and graduate committee. These courses can be used by the student to receive further training in their areas of scientific interest.

The course requirements for a M.Eng. degree in Materials Science are described below.

Required Fundamental Courses (8 cr.)

- MATS 570. Structure-Property Relations in Materials (4) ⁺
- MATS 581. Thermodynamics of Solids (4)

⁺ Students entering the MatSci graduate program with a B.S. degree in Materials Science or Metallurgical Engineering are not required to take MATS 570 but will need to replace the credits with an elective course.

Core Curriculum (7-8 cr.)

Select 2 of the following:

- MATS 571. Electronic Properties of Materials (4)
- MATS 582. Rate Processes in Materials (3)
- MATS 584. Advanced Fracture of Materials (4)
- MATS 588. Computational Methods in Materials Science (4)

Characterization Requirement (minimum 3-4 cr.)

Students must select at least one of the following:

- CH 616. Crystallography and X-Ray Diffraction (4)
- CHE 625. Materials and Surface Characterization (3)
- MATS 555. Experimental Techniques in Materials Science (4)
- MATS 659. Principles of Transmission Electron Microscopy (4)
- NSE 546. Microstructure Characterization of Structural and Energy Materials (4)
- OC 528. Microprobe Analysis (3)

Processing Requirement (minimum 3-4)

Students must select at least one of the following:

- CHE 544 Thin Film Materials Processing (4)
- CHE 545. Polymer Engineering and Science (4)
- CHE 546. Polymer Synthesis and Processing (3)
- CHE 611/ECE 611. Electronic Materials Processing (3)
- ECE 518. Semiconductor Processing (4)
- MATS 545. Welding Metallurgy (4)
- MATS 578. Thin Film Materials Characterization and Properties (4)

Ethics (3)

Students must select one of the following:

- BA 550 Leadership and Teams in Organizations (3)
- EMGT 554 Professional Responsibility and Ethics (3)

Technical Writing (3)*

- WR 545 Technical Writing for Professional Engineers (3)

** Before enrolling in the technical writing course, students are required to complete a total of 30 credits that includes the ethics requirement, required fundamental courses, core curriculum, characterization requirement, and processing requirement.*

Electives (15-18)

Selected by student, approved by their major professor and Program Director.
(MEng students may count up to one seminar credit toward their degree)

Total 45 credits

ii. M.Eng. Graduate Committee

Since the M.Eng. degree is a coursework-only degree, students do not need to have a major professor to mentor them in the same way that a research student does. Therefore, M.Eng. students will be assigned committee members inclusive of Graduate Program Coordinator, Amy K. Thomson, and Program Director, Dr. Vince Remcho.

iii. M.Eng. Program of Study

In collaboration with the Graduate Program Coordinator, you will create your own [Program of Study](#) and document it on a Program of Study form. The Program of Study defines:

1. The courses you plan on taking as a graduate student,
2. the graduate faculty members on your graduate committee, and
3. if you are completing the requirements for a minor and/or a graduate option.

The Program of Study form is a contract between the student, the MatSci program, and the University. The Office of Graduate Education uses your Program of Study to determine your

eligibility for exams and to complete the final audit of your coursework prior to awarding your degree. Prepared forms must be created and submitted through the Grad School's Digital Program of Study system to be signed by the students, the student's entire committee, the Materials Science Program Director, and the Office of Graduate Education for final approval. For master's students, a program of study must be filed with the Office of Graduate Education prior to completing 18 credits and no later than **15 weeks prior** to the final exam.

When considering which courses to include in your program of study, be careful to ensure that no more than 50% of the credits are slash courses (the 5XX component of a 4XX/5XX course). To determine if a course is a slash course, examine the OSU Catalog for the term you took (or plan to take) the 5XX course. If there is a 4XX course with the same title during the same term, then this is a slash course.

iv. M.Eng. Summative Exam

A summative assessment is required by the Office of Graduate Education for non-thesis MEng degrees. A "summative assessment" is the counterpart/alternative to the oral exam/defense of a research-based MS degree. For students pursuing a course-based professional master's degree, the summative assessment of their work is grounded in successful completion of WR 545, a technical writing course which supports completion of a final portfolio (which is then submitted to your Graduate Program Coordinator during a student's final term, signifying to the program their intent-to-graduate).

All MEng students must successfully complete *WR 545 Technical Writing for Professional Engineers* in their (recommended) last term in the program. This course may also be taken in a student's penultimate term in the program. This course *cannot be taken before* a student completes a total of 30 credits that includes the ethics requirement, required fundamental courses, core curriculum, characterization requirement, and processing requirement.

Students enrolled in WR 545 will complete a final portfolio project in that course. Please submit this document to your Graduate Program Coordinator via email after you have submitted this as your final assignment in WR 545.

No later than 2 weeks before the end of your final term, complete the [Exam Scheduling Form](#) with the Office of Graduate Education. You will use this form to "schedule" your "Alternative Summative Assessment." M.Eng. students should indicate on the form that the type of exam they are requesting is an "Alternative Summative Assessment (MENG, MBA, MSB, MCOUN)." While this is not an event on a set date, you will need to complete the required fields on this form. The MatSci Program Director serves as the signer for this paperwork, and this is who you should list as your major professor when submitting your exam scheduling form. This form triggers a final review/audit of your degree program by the Office of Graduate Education, as well as providing paperwork to your program to complete the Summative Assessment for your degree.

D. MASTER OF SCIENCE (M.S.) DEGREE REQUIREMENTS

v. M.S. Degree Course Requirements

Official program requirements are available in the [Academic Catalog](#). If there is a conflict between what is stated here and what is presented in the catalog, the catalog requirements take precedent.

The M.S. curriculum consists of two fundamental courses, two courses from the core curriculum, at least one materials characterization course, at least one materials processing course and specialized elective coursework tailored towards your research thrust. Elective Courses (approved by the Program Director) will be selected by the student under guidance from the advisor and graduate committee. These courses can be used by the student to receive further training in their research area and to explore new areas of scientific interest.

Graduate students are expected to work towards completion of their thesis from the first term on campus. A non-thesis or project-based M.S. student may be able to handle three or even four courses per term, since their primary purpose is to complete their required coursework and project, but a research student, even before they've decided on a major professor or thesis topic, needs to account for the time it takes to figure these things out. Therefore, it is appropriate that their registration reflects that effort. Registration in thesis credits (e.g., MATS 503 or 506) is typical as "top-off" credits each term once the in-class course load has been decided. Furthermore, once all required graduate courses on a student's Program of Study are completed, students typically register full time with thesis credits each term until they graduate, unless permission for a reduced course load has been requested and granted. Students will select the section of MATS 503 or MATS 506 under their major professor. If the major professor does not have a section of MATS 503/506 available, they may request one by contacting Julie Nist, julie.nist@oregonstate.edu. Students on assistantships need to register for a minimum of 12 credits per term, and, if not on an assistantship, most students will need to register for a minimum of 9 credits per term to gain "full-time" status for visa or other considerations.

The course requirements for an M.S. degree in Materials Science are described below. A total of 45 credits is required to graduate, and a minimum of 30 credits must come from coursework.

Required Fundamental Courses (8 cr.)

- MATS 570. Structure-Property Relations in Materials (4) ⁺
- MATS 581. Thermodynamics of Solids (4)

Core Curriculum (7 – 8 cr.)

Select 2 of the following:

- MATS 571. Electronic Properties of Materials (4)
- MATS 582. Rate Processes in Materials (3)
- MATS 584. Advanced Fracture of Materials (4)
- MATS 588. Computational Methods in Materials Science (4)

⁺ Students entering the MatSci graduate program with a B.S. degree in Materials Science or Metallurgical Engineering are not required to take MATS 570 but will need to replace the credits with an elective course.

Characterization Requirement (minimum 3 – 4 cr.)

Students must select at least one of the following:

- CH 616. Crystallography and X-Ray Diffraction (4)
- CHE 625. Materials and Surface Characterization (3)
- MATS 555. Experimental Techniques in Materials Science (4)
- MATS 659. Principles of Transmission Electron Microscopy (4)
- NSE 546. Microstructure Characterization of Structural and Energy Materials (4)
- OC 528. Microprobe Analysis (3)

Processing Requirement (minimum 3-4)

Students must select at least one of the following:

- CHE 544 Thin Film Materials Processing (4)
- CHE 545. Polymer Engineering and Science (4)
- CHE 546. Polymer Synthesis and Processing (3)
- CHE 611/ECE 611. Electronic Materials Processing (3)
- ECE 518. Semiconductor Processing (4)
- MATS 545. Welding Metallurgy (4)
- MATS 578. Thin Film Materials Characterization and Properties (4)

Electives (6-20)

Selected by student, as approved by their major professor.

Total credits required for coursework is 30 credits

Seminar (1-3, 3 maximum)

- ME 507. At least one credit of seminar must be the section titled Materials Science Seminar.

Thesis or Project Credits (3-12)

- MATS 503. Thesis (6-12)
- OR
- MATS 506. Non-Thesis Project (3-6)

Total 45 credits

vi. M.S. Graduate Committee

For the M.S. degree, the graduate committee consists of at least four members - two from Materials Science, one in the minor field (if applicable), and a Graduate Council Representative (GCR). When a minor is not included, the fourth member may be from the graduate faculty at large. At least one of the Material Science committee members must be from a different department/school

than the major professor. In addition, the GCR must be from a different department/school than the major professor as well.

vii. M.S. Program of Study

In collaboration with your major professor, you will create your own [Program of Study](#) and document it on a Program of Study form. The Program of Study defines:

1. The courses you plan on taking as a graduate student,
2. the graduate faculty members on your graduate committee,
3. whether your degree is thesis or project-in-lieu-of-thesis, and
4. if you are completing the requirements for a minor and/or a graduate option.

The Program of Study form is a contract between the student, the MatSci program, and the University. The Office of Graduate Education uses your Program of Study to determine your eligibility for exams and to complete the final audit of your coursework prior to awarding your degree. Prepared forms must be created and submitted through the Grad School's Digital Program of Study system to be signed by the students, the student's entire committee, the Materials Science Program Director, and the Office of Graduate Education for final approval. A program of study meeting is not required for M.S. students. For M.S. students, a program of study must be filed with the Office of Graduate Education prior to completing 18 credits and no later than **15 weeks prior** to the final exam.

When considering which courses to include in your program of study, be careful to ensure that no more than 50% of the credits are slash courses (the 5XX component of a 4XX/5XX course). To determine if a course is a slash course, examine the OSU Catalog for the term you took (or plan to take) the 5XX course. If there is a 4XX course with the same title during the same term, then this is a slash course. Thesis and project credits with course numbers 503 and 506, respectively are considered stand-alone graduate courses for purposes of these calculations. If the student has co-major advisors, these credits may be split between two the advisors.

For the M.S. degree in Material Science a total of 45 credits is required to graduate, and a minimum of 30 credits must come from coursework. Seminar and thesis credits do not count towards coursework.

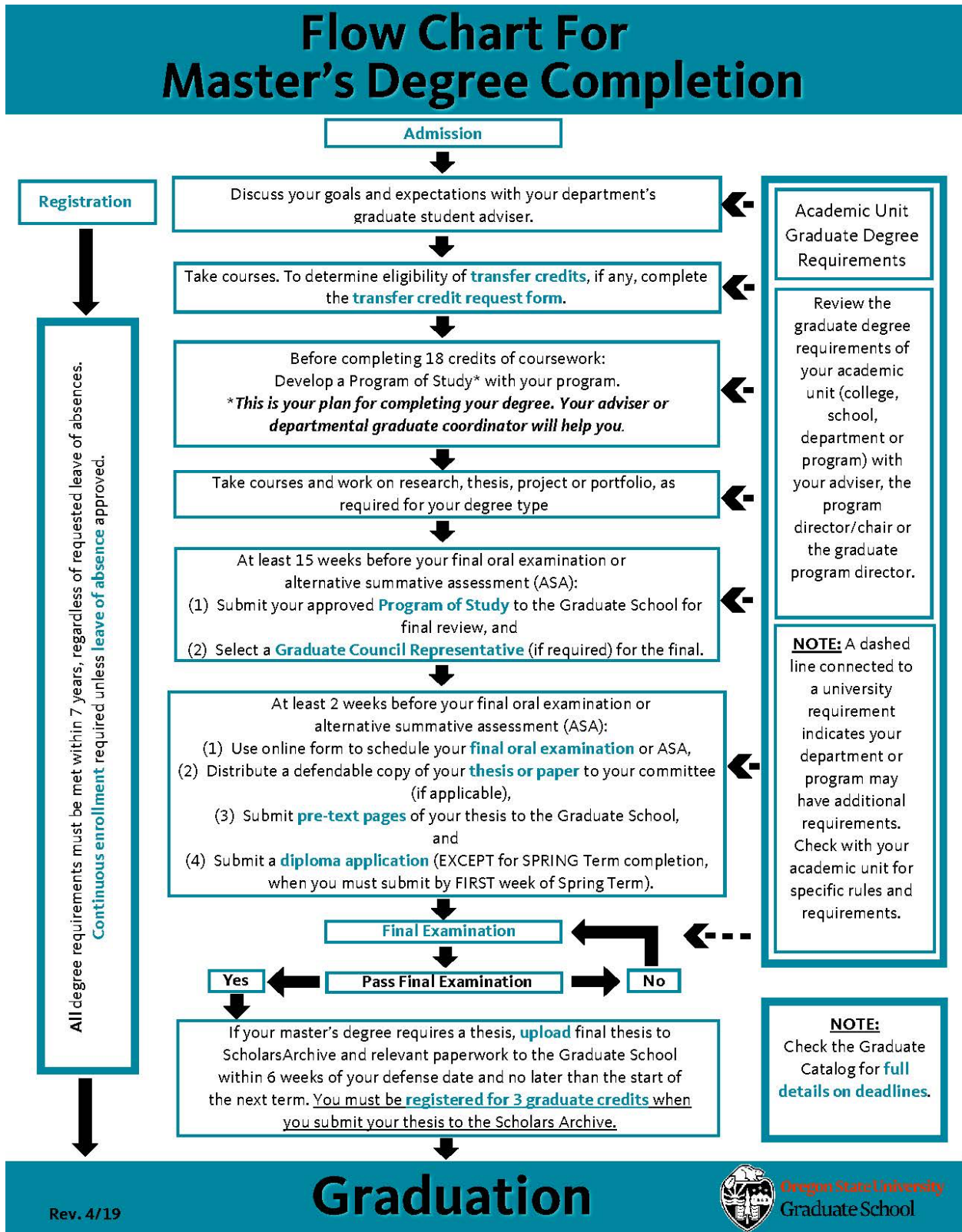
viii. Project-Based M.S. degree

A non-thesis or project-based M.S. degree is an option in cases where project sponsors restrict publication of data or when a student is working towards a Ph.D. and would like to obtain an M.S. along the way. In this case a student will take project credits (e.g., MATS 506) instead of thesis credits (e.g., MATS 503) from their major professor. The project-based M.S. must conform to all Office of Graduate Education requirements. Students must take 3-6 project credits instead of thesis credits and replace the remaining credits with coursework approved by their major professor. Please contact the Materials Science Program Director or Head Advisor for further details regarding this option.

ix. M.S. Thesis/Project Defense

As required by the Office of Graduate Education, M.S. degree students must pass certain examinations to be awarded a degree. The M.S. degree requires a written document (thesis or project) and a final oral exam. Students must have a minimum GPA of 3.00 on their Program of Study and their cumulative graduate transcript to schedule their final oral examination. The M.S. Program of Study must be submitted to the Office of Graduate Education **15 weeks prior** to the final exam. All course work with a grade of I (Incomplete) appearing on the Program of Study form must be completed prior to scheduling the final oral examination. Having arranged a date and time that works for your entire committee to convene for your final exam, you may contact the Graduate Program Coordinator for help in finding an appropriate location for the event. Once you have the date, time, and location you are ready to schedule your final oral exam through the Office of Graduate Education. Scheduling must be at least **two weeks** in advance of the exam date to allow time for a final audit of your Program of Study. Your written document must be given to your committee for review **at least one week** prior to your exam, though more (~ one month) is often expected. Please refer to the OSU Graduate Catalog for more details on this requirement. Exams are typically scheduled for two hours to allow time for a student presentation and a question period with the committee. The final exam scheduling form can be found here: <https://graduate.oregonstate.edu/formlink/14646>

x. M.S. Degree Progression Flowchart



E. DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE REQUIREMENTS

i. Ph.D. Degree Courses Requirements

Official program requirements are available in the [Academic Catalog](#). If there is a conflict between what is stated here and what is presented in the catalog, the catalog requirements take precedent.

The Ph.D. curriculum consists of two fundamental courses, two courses from the core curriculum, at least one materials characterization course, at least one materials processing course and specialized elective coursework tailored towards your research thrust. Elective Courses (approved by the Program Director) will be selected by the student under guidance from the advisor and graduate committee. These courses can be used by the student to receive further training in their research area and to explore new areas of scientific interest.

Graduate students are expected to work towards completion of their thesis from the first term on campus. Therefore, it is appropriate that their registration reflects that effort. Registration in thesis credits (MATS 603) is typical as “top-off” credits each term once the in-class course load has been decided. Furthermore, once all required graduate courses on a student’s Program of Study are completed, students typically register full time for thesis credits each term until they graduate, unless permission for a reduced course load has been requested and granted. Students on assistantships need to register for a minimum of 12 credits per term, and, if not on an assistantship, most students will need to register for a minimum of 9 credits per term to gain “full-time” status for visa or other considerations.

The course requirements for a Ph.D. degree in Materials Science are described below. A total of 108 credits is required to graduate, and a minimum of 45 credits must come from coursework.

Required Fundamental Courses (8)

- MATS 570. Structure-Property Relations in Materials (4)⁺
- MATS 581. Thermodynamics of Solids (4)

⁺ Students entering the MatSci graduate program with a B.S. degree in Materials Science or Metallurgical Engineering are not required to take MATS 570 but will need to replace the credits with an elective course.

Core Curriculum (7-8)

Select 2 of the following:

- MATS 571. Electronic Properties of Materials (4)
- MATS 582. Rate Processes in Materials (3)
- MATS 584. Advanced Fracture of Materials (4)
- MATS 588. Computational Methods in Materials Science (4)

Characterization Requirement (minimum 3-4)

Students must select at least one of the following:

- CH 616. Crystallography and X-Ray Diffraction (4)
- CHE 625. Materials and Surface Characterization (3)

- MATS 555. Experimental Techniques in Materials Science (4)
- MATS 659. Principles of Transmission Electron Microscopy (4)
- NSE 546. Microstructure Characterization of Structural and Energy Materials (4)
- OC 528. Microprobe Analysis (3)

Processing Requirement (minimum 3-4)

Students must select at least one of the following:

- CHE 544 Thin Film Materials Processing (4)
- CHE 545. Polymer Engineering and Science (4)
- CHE 546. Polymer Synthesis and Processing (3)
- CHE 611/ECE 611. Electronic Materials Processing (3)
- ECE 518. Semiconductor Processing (4)
- MATS 545. Welding Metallurgy (4)
- MATS 578. Thin Film Materials Characterization and Properties (4)

Electives (21-24)

Selected by student, as approved by their major professor.

Total credits required for coursework is 45 credits

Seminar (1-3, 3 maximum)

- ME 507. At least one credit of ME 507 must be the section titled Materials Science Seminar.

Thesis (36+)

- MATS 603.

Total 108 credits

ii. Ph.D. Graduate Committee

For the Ph.D. degree, the thesis committee consists of a minimum of five members of the graduate faculty, including two from Materials Science and a Graduate Council Representative (GCR). If a minor is declared the committee must include a member from the minor department. At least one of the Material Science committee members must be from a different department/school than the major professor. In addition, the Graduate Council representative must be from a different department/school than the major professor as well.

iii. Ph.D. Program of Study

In collaboration with your major professor or advisor, you will create your own program of study and document it on a Program of Study form. The program of study defines:

1. The courses you plan on taking as a graduate student,
2. the graduate faculty members on your graduate committee, and
3. if you are completing the requirements for a minor and/or a graduate option.

The Program of Study form is a contract between the student, the MatSci program, and the University. The Office of Graduate Education uses your Program of Study to determine your eligibility for exams and to complete the final audit of your coursework prior to awarding your degree. Prepared forms must be created and submitted through the Grad School's Digital Program of Study system to be signed by the students, the student's entire committee, the Materials Science Program Director, and the Office of Graduate Education for final approval. For master's students, a program of study must be filed with the Office of Graduate Education prior to completing 18 credits and no later than **15 weeks prior** to the final exam.

Complete your Program of Study by working with your major advisor to make sure your program fulfills all the requirements of the MatSci Program. Ph.D. students are required to schedule a Program of Study meeting with their committee to go over and approve the Program of Study. This meeting is normally scheduled for 30 minutes. It is helpful if the student prepares a short presentation to help the committee understand the focus of their research and a timeline to graduation. Although the Office of Graduate Education requires formal program meetings for doctoral students, students are not required to formally schedule the program meetings with the Office of Graduate Education. Following the meeting, doctoral students will submit Program of Study form electronically to the Office of Graduate Education to be routed for committee signature. For newly admitted Ph.D. students who do not plan to earn an M.S. degree along the way, a Program of Study must be submitted by the end of their fifth term. For students continuing on from an M.S. degree to a Ph.D., a doctoral Program of Study must be submitted within two terms of the completion of their M.S. degree.

When considering which courses to include in your program of study, be careful to ensure that no more than 50% of the credits are slash courses (the 5XX component of a 4XX/5XX course). To determine if a course is a slash course, examine the OSU Catalog for the term you took (or plan to take) the 5XX course. If there is a 4XX course with the same title during the same term, then this is a slash course.

Thesis credits (MATS 603) are considered stand-alone graduate courses for purposes of these calculations. If the student has co-major advisors, these credits may be split between two different faculty.

For the Ph.D. degree in Materials Science a total of 108 credits is required to graduate with a minimum of 45 credits coming from coursework and a minimum of 36 thesis credits (MATS 603). Seminar and thesis credits do not count towards coursework.

iv. Ph.D. Qualifier

The MatSci Ph.D. program does not have a written or oral Qualifying Exam. Instead, students qualify for the Ph.D. program based on their grades in the fundamental and core courses:

1. Ph.D. students must receive a grade of B or higher in all required Materials Science fundamental courses (MATS 570 and MATS 581) and two core courses (MATS 571, MATS 582, MATS 584 and/or MATS 588).
2. These requirements must be met by the end of the 2nd Winter term after entering the Ph.D. program. Note: this timeline can be adjusted if a student is not starting in the Fall term.
3. Courses can be retaken as needed prior to the deadline stated above.
4. The MatSci graduate program committee (GPC) will meet the first week of each Spring term to review the academic record of each student applying for candidacy into the Ph.D. program. The student must submit a draft Program of Study for their Ph.D. program as part of the evaluation process. The faculty will make a recommendation on Ph.D. candidacy based on the GPA requirement above and will make formal recommendations on any additional coursework that might be needed.

v. **Ph.D. Preliminary Examination**

The format of the Preliminary Examination includes a written and an oral portion, however the exact nature of the exam will be determined by the major professor and thesis committee at the student's program meeting.

The Materials Science Preliminary Exam focuses on the proposed thesis research and includes the following components:

- Written research proposal describing the specific research methodology and justifying the thesis research. This document typically includes an introduction, literature review, a description of the research plan, and preliminary results. The format of the document should follow the thesis style with a maximum of 30 pages (not including front matter and references).
- The preliminary proposal document should be written by the student without any assistance in technical content (i.e., with no input from the major professor, other committee members, or other students). This work is intended to be an example of the students' independent ability to compose a research proposal. The major professor may give general guidance on the outline and format, but no technical review or revisions. The student may seek guidance from the Writing Center for assistance with writing style, structure, and grammar.

A copy of the research proposal must be distributed to the members of the committee at **least one week** (i.e., seven days) prior to the date of the scheduled oral exam, though more time (~ one month) is appreciated. Oral presentation and examination on the thesis proposal (including preliminary results, if appropriate). The oral exam must be scheduled at least **2 weeks** in advance through the Office of Graduate Education using forms found on this link: <https://graduate.oregonstate.edu/formlink/14646>

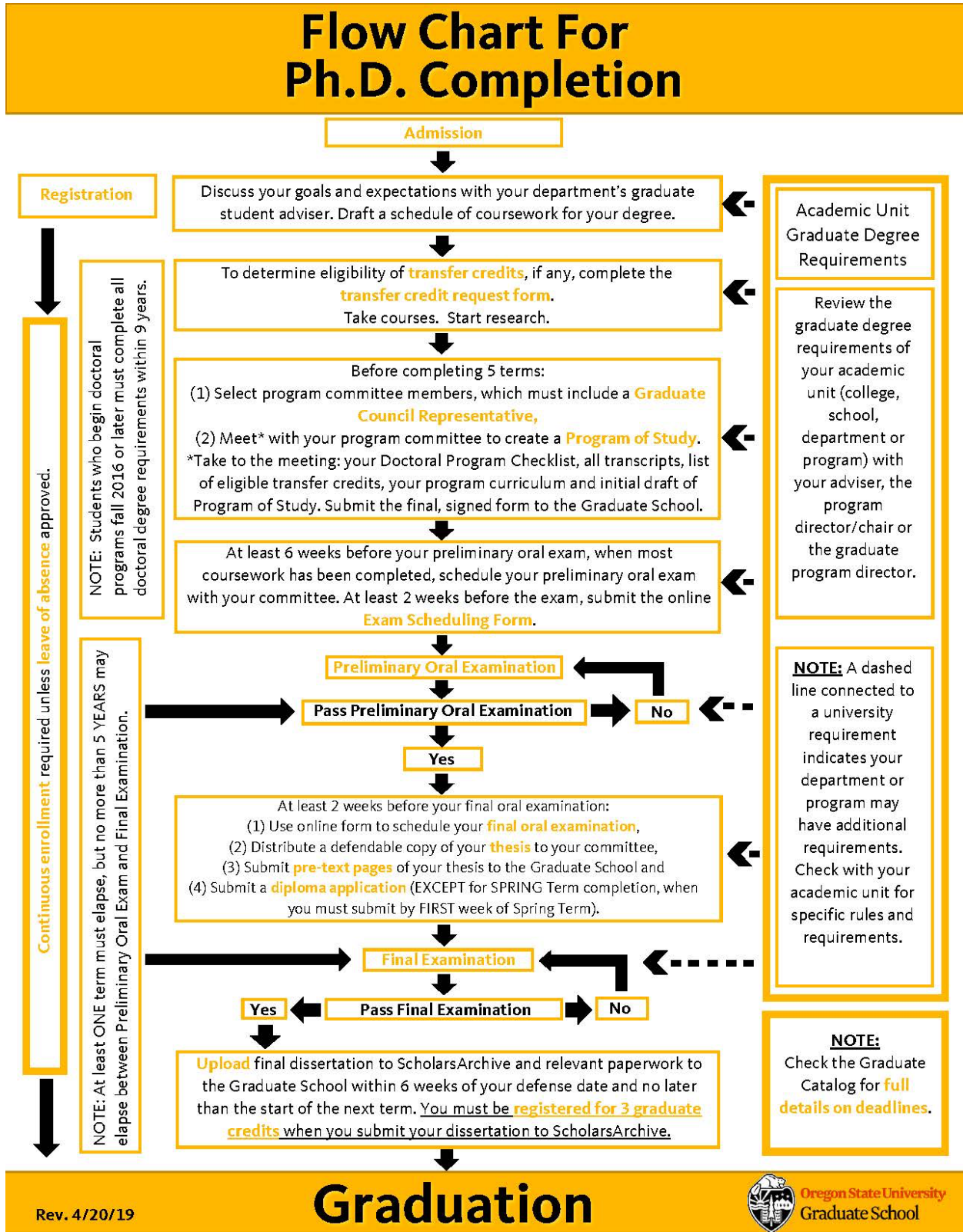
Deadline: For students entering the doctoral program having already completed a master’s degree either at OSU or at another institution, the Preliminary Exam must be completed by the end of their first academic year after entering the Ph.D. program. For students working on a master’s and doctoral degree concurrently at OSU the Preliminary Exam must be completed by the end of their third year at OSU.

Year 1			Year 2			Year 3		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Core	Core	Core	Core	Core	Start PhD			Prelim

vi. Ph.D. Dissertation Defense

As required by the Office of Graduate Education, Ph.D. students must pass certain examinations to be awarded a degree, the last of them being a final oral exam, also known as the Ph.D. Dissertation Defense. Students must have a minimum GPA of 3.00 on both their Program of Study and cumulative graduate transcript to schedule their final oral examination. All course work with a grade of I (Incomplete) appearing on the Program of Study form must be completed prior to scheduling the final oral examination. Having arranged a date and time that works for your entire committee to convene for your final exam, you may contact the Graduate Program Coordinator for help in finding an appropriate location for the event. Once you have the date, time, and location you are ready to schedule your final oral exam through the Office of Graduate Education. Scheduling must be at least **two weeks** in advance of the exam date to allow time for a final audit of your program of study. You must provide your dissertation document to the committee at **least one week prior** to the exam, however, one month is customary. Please refer to the OSU Graduate Catalog for more details on this requirement. For tips on scheduling your final exam committee meeting go here: <https://graduate.oregonstate.edu/current-students/tips-scheduling-committee-meetings>.

vii. Ph.D. Degree Progression Flowchart



F. OPTIONS

Options are transcript visible focus areas you may add to your graduate degree. You can tailor your elective courses to meet the requirements of the option and gain an extra credential when you graduate. Currently, the Materials Science Program offers one option in Advanced Manufacturing.

i. **Advanced Manufacturing**

The Advanced Manufacturing graduate option recognizes the highly interdisciplinary nature of manufacturing, which spans the fields of systems engineering, machine design and control, engineering mechanics, fluid dynamics, heat and mass transfer, thermodynamics, and materials science and involves both experimental and computational efforts. Graduate students pursuing degrees in Industrial Engineering, Mechanical Engineering, or Materials Science may declare an Advanced Manufacturing option.

A total of 12 credits from the courses listed below are required to complete the option. Note that courses cannot be double counted towards the option and the Materials Science degree requirements.

Required (1)

- MFGE 507. Seminar (Advanced Manufacturing) (1).

Materials Science (3-4)

Select one of the following:

- MATS 555. Experimental Techniques in Materials Science (4)
- MATS 570. Structure-Property Relations in Materials (4)
- MATS 588. Computational Methods in Materials Science (4)
- ME 580. Materials Selection (3)

Manufacturing Systems (3-4)

Select at least one of the following:

- IE 552. Design of Industrial Experiments (3)
- ME 597. Precision Motion Generation (4)
- MFGE 535 Industrial Sustainability Analysis (3)
- MFGE 536. Lean Manufacturing Systems Engineering (4)
- MFGE 599. Special Topics (Sensor Design for Manufacturing) (4)

Manufacturing Processes (3-4)

Select at least one of the following:

- MFGE 525. Computational Methods for Advanced Manufacturing (3)
- MFGE 531. Micromanufacturing (4)
- MFGE 538. Composites Manufacturing (4)
- MFGE 551. Additive Manufacturing (3)

Total 12 credits

G. ADDING A MINOR OR REQUESTING DUAL MAJORS

OSU does not require graduate students in engineering to pursue a minor. However, if desired, a minor may be selected. The minor may be a recognized school minor, a recognized integrated minor, or a student-designed/committee-approved minor. Minors appear on your transcript but will not be listed on your diploma. Speak with your major professor for more details on minors.

An integrated minor consists of a series of cognate courses from two or more areas. These courses must be outside the major area of concentration, with most of the courses being outside the major department. An individual course cannot be double counted as satisfying both a major requirement and a minor requirement.

For the M.A., M.S., Ed.M., M.F., or Ph.D. degree, a student may select two graduate major areas to pursue instead of the traditional single major. Only one degree is awarded, and the student basically must satisfy all degree requirements for majors in both areas. For more details, contact the Office of Graduate Education.

A graduate minor is an academic area that clearly supports the major. On an M.S. or Ph.D. program, a minor may be:

1. an academic area available only as a minor,
2. a different major,
3. the same major with a different area of concentration,
4. an approved major at another institution in the Oregon University System, or
5. an integrated minor.

i. Graduate Minor in Materials Science

A graduate minor in Materials Science is available to students outside of the Materials Science major that complete MATS 570 plus additional coursework, from the core curriculum, processing and characterization requirement list, totaling 15 credits (M.S. minor) or 18 credits (Ph.D. minor). A member of the Materials Science Graduate Faculty (not from the advisor's home unit) must serve as the Minor Professor on the committee.

H. COURSE REGISTRATION

Students register for courses online at the Student Online Services site accessed via <https://beaverhub.oregonstate.edu/login>. For convenience, students should have their proposed schedule prepared at the time of registration which begins during Sunday of Week 8 of the prior term. An ONID login/password is required for registration. Reminder: Students can sign up for an ONID account at onid.oregonstate.edu.

As part of the OSU Office of Graduate Education's Continuous Enrollment policy, every student must register for a minimum of three (3) graduate-level credits every fall, winter and spring term in which they are seeking a degree. This policy applies to every student, regardless of their location, who will be using university resources (e.g., facilities, equipment, and computing and

library services, or faculty or staff time). If a student fails to maintain continuous enrollment, they become inactive and will have to re-apply to their graduate program. If a student is using university resources during summer session to engage in academic or research activities in support of their thesis or degree, they must also register for three credits during that time.

Students may request a leave of absence (LOA) to be exempted from the continuous enrollment policy, if there is good reason to suspend their program of study; they have the support of their major professor, graduate program administrator and the Office of Graduate Education. Please see the OSU Catalog to learn more about LOA rules and restrictions (<https://catalog.oregonstate.edu/college-departments/graduate-school/#policiestext>).

In the OSU Catalog, MatSci courses may be found under the following subject code: MATS. Other subject codes of courses commonly taken by MatSci graduate students include CS, ENGR, GRAD, LEAD, PPOL, ST, ME, MIME, MFGE, AAE, IE, WSE, CHE, etc. Graduate degrees are very flexible. As long as all program and degree requirements are met, students have the freedom to take any graduate level course at the university and count it toward their program of study, with the approval of their major professor.

Courses numbered 500-699 are for master's or doctoral students. Courses numbered below 500 are for undergraduate students and may not be used toward graduate degree completion requirements. In other words, graduate students take undergraduate (300-, 400-level) courses and they may count towards full-time student status, but they will not satisfy any course requirements for the M.Eng., M.S., or Ph.D. degree programs. The OSU Catalog's Schedule of Classes is the official listing of all current and upcoming courses. Future term listings of classes are subject to change until registration begins for a future term. With the exception of OSU's Summer Session, registration is always on Sunday of Week 8 of the prior term. For more registration information see: <https://registrar.oregonstate.edu/registration>.

i. Full-Time vs. Part-Time Enrollment

At OSU, full-time status as a graduate student is defined as enrollment in nine (9) credits per term (fall, winter and spring), with a maximum load of 16 credits. However, full-time status (i.e., a minimum of 9 credits per term) may not be sufficient to qualify for purposes of veterans' benefits, visa requirements, external fellowships, graduate assistantships, or federal financial aid. Students should check with their funding source to be sure they understand the minimum credits required for their benefit. International students should consult with OSU's Office of International Services for additional information about registration requirements specifically related to their student visa status.

As a condition of their academic appointments, graduate assistants are required to register for three (3) credits above the minimum full-time load (i.e., 12 credits) each term of their appointment during the academic year (fall, winter, and spring). During summer session, a minimum registration of only three graduate-level (3) credits is required for graduate assistants. Students are responsible for determining whether the minimum 3-credit summer registration fulfills their individual immigration, financial aid, tax liability or other specific needs. Audit registrations, course withdrawals, and enrollment in INTO OSU courses may not be used to satisfy enrollment

requirements for graduate assistant salary/stipend, tuition remission, salary supplement or health insurance benefits.

I. MANDATORY ETHICAL RESEARCH TRAINING

OSU's Graduate Council requires that all doctoral students "be able to conduct scholarly activities in an ethical manner" and all master's students "be able to conduct scholarly or professional activities in an ethical manner," but leaves the assessment of this requirement to be carried out at the program level. For Materials Science students, the preferred avenue for meeting that requirement is the CITI "Responsible Conduct of Research (All Disciplines)" course, although OSU's GRAD 520 is also an acceptable option.

J. SELECTING AND SWITCHING MAJOR ADVISORS

i. Advisor Selection

To develop a M.Eng., M.S. or Ph.D. graduate program of study, a student must first have an academic advisor/mentor, commonly known as a major professor. Depending on how a student is admitted to the graduate program, they may have an advisor of record from the start. If not, the student should identify an advisor as early in the first year as possible, so that the student can start taking thesis or project credits to get started in research. While all incoming MatSci graduate students can contact the MatSci Director as an interim advisor, it is the student's responsibility to select a major professor and assemble a committee as soon as possible. Discussions with prospective major professors should begin during a student's first term of enrollment or prior to arriving at OSU. The choice of a major professor should be given considerable thought, since you will have a close working relationship with this individual for the duration of your degree program, and close professional and personal contacts thereafter.

To identify an advisor, we recommend the following approach: (1) take classes in their areas of interest, as the faculty teaching the classes will be a good points of contact for identifying an advisor; (2) attend reading groups or seminars in areas of interest to get to know the faculty and graduate students; and (3) talk to prospective advisors about how to find out about the research area and whether it is a good fit. Be sure to discuss financial support needs and options with the potential faculty mentor when considering a proper fit and project. You are expected to complete your degree program under your major professor's supervision (unless exceptional circumstances prevent it). Your major professor will guide your research efforts to completion and oversee all aspects of your graduate studies. The student is also responsible for actively seeking information about individual research projects. If no advisor is secured for M.S. or Ph.D. students, they may transfer to the coursework only M.Eng. degree to complete their course of study without a research project. If either party terminates the student/advisor relationship, the student is expected to find a new major professor within one academic term. Failure to find a new advisor will result in the student being transferred to an M.Eng. degree or terminated from the program. Students may be dismissed if the M.Eng. transfer does not take place by the next term.

ii. Switching Advisors

Changing advisors is not uncommon. Ideally, this comes from conversation between the student and their current advisor with the current advisor supporting the effort to identify a new advisor. However, situations are not always ideal, in which case the MatSci Program Director and the MatSci faculty will work to facilitate this process. A student or major advisor should notify the MatSci Program Director (contact info on title page of this document) of the intent to change the advising relationship.

1. If the student has identified a new major advisor, then the student will email the MatSci Program Director who will update the program records.
2. If a new major advisor has not been identified, then either the student or the previous advisor will email the MatSci Program Director. The MatSci Program Director will work with the student to facilitate a transition to a new advisor; the earlier this facilitation can happen, the better. This may include mediating conversations with the previous advisor to understand the reasons for the switch and to ensure that the student will have every chance to be successful with a new advisor. However, the student is ultimately responsible for identifying a new advisor (see “Procedure for Selecting an Advisor”) by the end of the following academic term. In the absence of exceptional circumstances, not doing so may result in discontinued enrollment in the M.S. or Ph.D. program.
3. Results of formal exams and meetings (qualifiers, oral exams, program meetings) are respected through advisor changes: for example, if you pass your qualifier but later switch advisors, you do not need to retake the qualifier exam. A student’s committee may also be helpful during a transition to a new advisor.

K. ANNUAL STUDENT PROGRESS REVIEW

Annually, all graduate students in the Materials Science Program at OSU are evaluated with regard to satisfactory academic progress. For MatSci students pursuing research degrees (M.S. and Ph.D.), this assessment process typically involves the preparation of two documents. A third document is required only in cases of unsatisfactory progress. These documents are:

1. **Academic Milestones Plan.** For MatSci students beginning their graduate work, this document must be completed before the end of their first term. For continuing students, this document constitutes their plan for the next academic year, and it is due at end of the academic year.
2. **Graduate Student Academic Progress Report.** All students must complete this document (i.e., first year, continuing, and finishing) and it is due at end of the academic year.
3. **Performance Improvement Plan.** This document is necessary only following an unsatisfactory academic progress assessment.

The MatSci program has prepared a guide for students to use in this effort. It can be found here: <https://oregonstate.app.box.com/s/d7mo0b7uc8txrcukn9k6aguu3ryouwxm>. Students should carry out this assessment in consultation with their major professor. The documents should be signed by both the student and his/her major professor before submission to the Graduate Program Coordinator.

5. GRADUATE ASSISTANT GUIDE

Graduate Assistants (GAs) are covered by the CGE-OSU contract. This document serves to provide MatSci specific guidance to MatSci GAs and Faculty on: training GAs receive from OSU, the Office of Graduate Education, the College of Engineering and Ecampus (if appropriate). Additional training may also occur and is considered part of a GA's employment. Coalition of Graduate Employees (CGE), the union representing GAs, also provides resources to help navigate employment at OSU.

While students are usually appointed as a GA for 9 months from mid-September to mid-June, their work assignments may change from quarter to quarter. GTA work assignments for Fall, Winter, Spring, and Summer quarters begin on September 16, December 16, March 16, and June 16, respectively, and each assignment is 13 weeks long.

A. GRADUATE TEACHING ASSISTANTS (GTAs)

Each GTA works most closely with the faculty to whose class they are assigned, and the assigned faculty assumes responsibility for delegation of tasks and evaluation of work. Students are hired as GTAs if they are in good academic standing and based on instructional need.

i. Types of GTA Duties

The most critical duty of a GTA is to know the material for the class they are assigned. GTAs will start their assignment one to four weeks before the beginning of the term so it is imperative that the GTA has access to the syllabus so they can determine any deficiencies and learn the material.

Duties of a GTA may include:

- Holding office hours either on campus (face-to-face) or online via web conferencing.
- Testing and grading both written and programming assignments. (GTAs will need to learn any software used to grade programming assignments.)
- Preparing solutions to homework assignments.
- Grading quizzes and exams.
- Helping other GTA's in the grading pool
- Providing meaningful feedback to students.
- Entering grades into online systems.
- Promptly answering students' questions on grading via email or other communication platforms.
- Testing and proctoring midterms and final exams.
- Holding help and review sessions.
- Assisting with in-class activities.

For some courses, GTAs will be responsible for labs and/or recitations sections of the course. GTAs may need to create lab materials to present weekly to a small section of students. A more experienced GTA may be given more advanced duties for the course, such as:

- Designing new quizzes and homework assignments.
- Generating grading rubrics.
- Giving a guest lecture or creating a PowerPoint presentation.
- Updating the course website.
- Meeting with small groups of students to review projects.
- Creating active learning modules.

For large classes with many GTAs, a lead GTA may be identified who will primarily manage the other TAs for a course and may have duties such as:

- Manage GTAs.
 - Ensure grading is done on time and correctly.
 - Organize office hours/meetings.
 - Handle grading rubric standardization (for consistency).
- Filter/Handle extension requests before they get to the faculty.
- Filter/Handle grading disputes before they get to the faculty.
- Assist faculty with collecting evidence for academic misconduct cases.

GTAs for Ecampus courses may have some different responsibilities such as:

- Checking discussion boards.
- Creating videos.
- Holding a Q&A via Canvas, Slack, Zoom or other communication platform.

The duties of a GTA for any given course should be given in written form before the first day of class along with the due dates for grading and exams, with the understanding that adjustments may need to occur as the course progresses.

ii. GTA Space

Office space is provided to researchers by their mentors (Major Professor/PI/Advisor); more information on this is provided below. For office hours associated with a GTA appointment, consult with the instructor of the course you are supporting in order to determine where and how office hours will be offered.

iii. GTA Training and Resources

The MatSci program is dedicated to fostering an inclusive and open educational environment for all learners. As such, all MatSci Graduate Teaching Assistants are required to complete GTA Training.

To meet the COE's GTA Training requirement, GTAs are required to complete a Canvas-based course. You will be emailed information prior to your first term acting at GTA.

If you feel that you have already completed this requirement, please forward associated correspondence to: COE.Training@oregonstate.edu.

The training is **mandatory** for anyone entering the classroom as a Graduate Teaching Assistant and needs to be completed by the end of the first week of the term. The training is intended to help you succeed as a Teaching Assistant, and is compensated as time worked as a GA.

Thank you for supporting the College of Engineering and MatSci's educational and inclusion goals.

GTA Training Materials (Teaching Skills Workshop PowerPoints)

- **Academic Integrity:**
<https://health.oregonstate.edu/sites/health.oregonstate.edu/files/graduate/ppt/Academic-Integrity-Presentation-for-Graduate-Assistants-2011.pptx>
- **Equal Access for Students with Disabilities:**
<https://health.oregonstate.edu/sites/health.oregonstate.edu/files/graduate/ppt/GTA-Teaching-Skills-Workshop-2011.pptx>
- **Sexual Harassment Prevention:**
<https://health.oregonstate.edu/sites/health.oregonstate.edu/files/graduate/ppt/Sexual-Harassment-Prevention-%28PHHS%2009.21.11%29.pptx>

There are a number of resources available at Learn@OregonState.edu including a wide variety of training for Canvas, Kaltura, clickers, and other teaching media tools to support your courses.

- **All Learn@OregonState Training Resources:** <https://learn.oregonstate.edu/>

iv. GTA Additional Resources

- CGE-OSU contract:
https://hr.oregonstate.edu/sites/hr.oregonstate.edu/files/cge_cba_2020-2024.pdf
- CGE resources: <https://www.cge6069.org/>
- International Affairs, Oregon State University:
<https://internationalservices.oregonstate.edu/>
- University holidays: <https://hr.oregonstate.edu/benefits/current-employees/time-holidays-protected-leaves/holiday-schedule>
- OSU's HR resources for Graduate Employees:
<https://hr.oregonstate.edu/benefits/student-employee/graduate-assistants>
- Student Conduct & Community Standards: Academic Misconduct
<https://studentlife.oregonstate.edu/studentconduct/faculty-info>

B. GRADUATE RESEARCH ASSISTANTS (GRAs)

i. General Expectations

Graduate research assistants are expected to remain in good standing with the Office of Graduate Education and the student's home unit, including maintaining at least a 3.0 GPA. Graduate research assistant duties may include research paper development, literature reviews, testing and evaluation of techniques, research presentation, reports to funding agencies, etc. The expected duration of the Ph.D. is 5 years, and the expected duration of the M.S. is 2 years. Students on a full 9-month GRA may request for up to 3 weeks of leave from work (15 weekdays) in addition to University recognized holidays; they must notify their advisors when they plan to take leave. This leave from work should not be confused with the Academic Leave of Absence. Leave policies may vary based on faculty advisor, so be sure to discuss expectations when you join a research group. Students are expected to conduct high quality research, including the development of algorithms, theory, software, and/or hardware.

ii. Safety

Graduate research assistants are expected to follow all laboratory and field safety precautions even if the result is a delay in research productivity. This includes, but is not limited to, being knowledgeable in the health hazards associated with hardware and/or chemicals being used, using all appropriate Personal Protective Equipment for the hardware and/or chemicals being used (appropriate gloves, safety glasses, closed toe footwear, etc.). Students are expected to maintain a clean workspace wherever they work in the labs and participate in occasional clean-up days. Students are expected to be supportive and helpful to others working in the laboratory and share in laboratory housekeeping chores, such as disposal of waste, hardware maintenance, and ordering of supplies.

Environmental Health and Safety department has prepared a training module on laboratory safety for researchers. MatSci is committed to a safe work environment. Researching MatSci graduate students are required to watch, learn and reflect on the following training video: http://oregonstate.edu/ehs/training/lab_safety_training. Each research laboratory may have additional required safety trainings. Please check with your advisor and the laboratory owner of any OSU laboratory you plan to access for their specific requirements.

6. ACADEMIC GRIEVANCES

Graduate students may reach out to the Director, or the General Advisor, of the MatSci Graduate Program if they have any grievances with MatSci Faculty members, including their own advisor. These discussions can be kept confidential, if requested by the student. It is helpful to have any documentation that may clarify your grievance (e.g., emails) to allow a third party to have an objective view of the situation.

7. OTHER HELPFUL INFORMATION AND RESOURCES

A. BUILDING ACCESS (KEYS & AFTER-HOURS PASS)

Graduate students may be granted the authority to carry building and lab keys. All requests for keys must be supported by an academic advisor, usually your major professor. Once your request has been processed, you'll receive an e-mail informing you that you may pick up your key(s). The service counter for picking up keys from the OSU Access, Lock and Key Shop is the university ID Center, located in Memorial Union (103). Their service hours are 9am-3pm, Monday through Friday. Key security is very important for everyone's safety. It is imperative that any loss of keys is reported immediately.

Campus Security patrols all buildings periodically outside of building open hours. Anyone without an After Hours Pass and valid photo ID will be required to leave the building. Office and laboratory doors and windows are to be kept closed and locked when not occupied. Security patrols will lock any open, vacant rooms. Do not let anyone into the building after hours. Individuals who are authorized to be in the building after hours are issued appropriate access codes and/or keys as well as After-Hours Passes. Anyone abusing this system will have their After-Hours Pass revoked. Students should contact their advisor or building manager of the building they work in to obtain their after-hours pass. Your major advisor will need to send an email to the building manager approving the pass and also letting them know for which building(s) the pass would be needed. Passes change color at the beginning of each academic year. You must obtain a new pass each year or risk being escorted from the buildings.

B. GRADUATE STUDENT OFFICE SPACE/DESKS

Graduate student offices/desks are located throughout buildings occupied by MatSci students and faculty. Your research advisor assigns offices/desk space. Space is limited; therefore, not all students are guaranteed individual desk space nor a computer. Students on graduate research appointments will be given preference (PhD priority), with remaining students placed as space permits. Once placed, please do not change your desk space assignment without the approval of your major professor. Please maintain a clean work environment and keep common areas and shared equipment in graduate student offices clean (e.g., microwaves, refrigerators, whiteboards, study tables, etc.).

The Fire Marshall requires the following:

1. All loose papers, books, documents, and combustible items must be removed from the desk space and locked in the provided locker and/or rolling tower when unoccupied. The desktop must be clear of all materials.
2. There will be no use of outside storage devices, such as cardboard boxes or other storage containers, in the graduate desk area.
3. Small appliances, such as mini fridges, coffee pots, microwaves, etc. are prohibited.
4. The tops of any lockers are to be clear of all materials, boxes, plants, etc.

C. STUDENT HEALTH SERVICES

i. Health Insurance

All graduate students are required to carry health insurance. Insurance for graduate assistants is provided by the university at a low premium cost to you as bargained by the graduate student union, the Coalition of Graduate Employees (CGE). University provided insurance may be waived as long as the student supplies documentation that the outside coverage is equal to or greater than the coverage provided by the University. For more information, enrollment forms, and premium rates, visit the Student Health Services website. Deadline for fall term signup is October 1.

For more information, please see <https://studenthealth.oregonstate.edu/insurance>. Other student health and wellness resources on campus include:

- OSU Student Health Services (<http://studenthealth.oregonstate.edu/>, 541-737-9355)
- OSU Counseling & Psychological Services (<https://counseling.oregonstate.edu/>, 541-737-2131)

D. INFORMATION FOR INTERNATIONAL STUDENTS

Information pertaining to international students can be found on these links:

- **Office of International Services (OIS):** <https://internationalservices.oregonstate.edu/students>
- **INTO Oregon State University:** <https://intoosu.oregonstate.edu/>
- **OIS Contact Information:** <https://internationalservices.oregonstate.edu/contact-ois>

E. STUDENT CLUBS

- **OSU Blacksmithing Club:** <https://www.facebook.com/osublacksmith>
- **OSU Materials Research Society (MRS) Student Chapter:** <http://groups.engr.oregonstate.edu/mrs/>

F. FACILITIES/EQUIPMENT AVAILABLE

- **OSU Electron Microscopy Facility:** <https://emfacility.science.oregonstate.edu/>
- **Metallography and Polishing Lab (Dearborn 001D):** Contact Dr. Julie Tucker (julie.tucker@oregonstate.edu)
- **Mechanical Properties Lab (Dearborn 001E):** Contact Dr. Megumi Kawasaki (megumi.kawasaki@oregonstate.edu)
- **MIME Machining and Product Realization Lab (Rogers Hall):** Contact Brian Jensen (brian.jensen@oregonstate.edu) or visit <https://mime.oregonstate.edu/mime-machining-and-product-realization-laboratory>.
- **Equipment in Dearborn 201 (XRD, AFM, nanoindenter, ellipsometer, optical microscope, micro-hardness tester):** Contact Dr. Brady Gibbons (brady.gibbons@oregonstate.edu)

G. SOFTWARE RESOURCES/CITRIX/PRINTING/SHARED COMPUTER LABS

Computer labs are available in most engineering buildings. They require an engineering account to log in. These computers maintain software for word processing, spreadsheet, and Internet connectivity applications. Options are available for remotely accessing research and other database or modeling software. School computers are supplied on most graduate student office desks to allow you to perform your research activities and course work, and they should not be used for games or other personal uses during normal business hours (0800 - 1700, Monday – Friday). After hours personal use, within reason (as described by University policy), is allowed as long as others do not need the computers for their research or class activities. Computer use supporting funded research takes priority over use for nonfunded research or personal activities. If you are assigned a desk without a computer, please contact your research advisor about acquiring a computer. Do not copy ANY software onto the School's computer hard disks without approval from the Network Administrator. Software licensing and disk space availability are two issues that must be considered. The installation of your own personal copies of software on the School's machines without permission exposes the School to an unacceptable potential liability and therefore cannot be allowed. Please ask permission for the installation and use of your personal software if it is important to your research or coursework. Also, please do not copy any software from the School's computers without permission. This action, again, violates software licensing agreements. All use of OSU computer systems must conform to the University's Policy on Acceptable Use of University Computing Facilities. OSU computer systems must not be used for any illegal activity, or for storage or distribution of copyrighted material (e.g., music, videos, e-books, etc.). If you have any general questions about using University computers, e-mail support@enr.orst.edu for assistance.

Most research laboratories have copiers and scanners available for use by the students and researchers in that group; students should contact their major professor for information about how to access their group's office equipment. Copies for class or official use must be approved by a faculty member, but generally, the class TA will make copies for class use. Anyone desiring to make personal copies will need to use resources available on the main floor of the Valley Library or through their engineering computing account (T.E.A.C.H.).

Citrix is a College of Engineering resource that is an easy-to-install client software that provides access to the computing tools you'll need to succeed. Whether you are on campus, at home, or on vacation - you will have access via your laptop, tablet, or smartphone to almost every application you can find in the College of Engineering computer labs! More about Citrix can be found by navigating to this link: <https://it.engineering.oregonstate.edu/citrix>.

H. OSU VALLEY LIBRARY'S RESOURCES

The Oregon State library faculty help students by offering tutorials along with recorded and live workshops for students.

- **Library Workshops:**
<https://oregonstate.libcal.com/calendar/workshops/?cid=10465&t=d&d=0000-00-00&cal=10465>

- **Ecampus and Remote Student Training Videos:** https://guides.library.oregonstate.edu/Ecampus_Library_Videos
- **All Library Resources:** <https://library.oregonstate.edu/>