JOHNS HOPKINS
UNIVERSITY

Department of Materials Science & Engineering

Graduate Student Manual

PhD Program

2025-2026

(Updated: August 2025)

1 Welcome

Welcome to the Department of Materials Science and Engineering! This manual is designed to serve as a guide for graduate students in the Department of Materials Science & Engineering to work more effectively during the conduct of their research and to describe the basic academic requirements for both the MSE and Ph.D. degrees. The detailed planning of an academic program, such as choosing courses and the like must be done with the guidance of the faculty advisor.

This manual covers policies and procedures, and offers suggestions regarding our program. Please address issues and questions not covered in this manual with these professors and staff:

- Academic Program Administrator – Lauren Rodgers – lmodica1@jhu.edu
- Your faculty advisor
- Sr. Administrative Manager – Steve Bonaccorsi – sbonacc1@jhu.edu
- Director of Graduate Studies, Professor Todd Hufnagel –hufnagel@jhu.edu
- Louis M. Sardella Department Head, Professor Michael Kessler – mrk@jhu.edu

This document is not phrased to professional legal standards. You will want to clarify any unclear issues with the department.

2 General Information

Graduate study is a joint enterprise involving faculty, fellow students, and instructors from other disciplines. Advanced degrees require advanced training through both coursework and individual faculty guidance as well as through innovative fundamental research. The results of this research should be disseminated through conference presentations, archival journals, and other appropriate publications. Our goal is to provide an environment that fosters a stimulating, rewarding, productive, and enjoyable intellectual enterprise.

2.1 Residency Requirements

Once students begin their graduate course of study toward a degree, they must complete a minimum of two consecutive semesters of registration as a full-time, resident graduate student. To qualify as a resident student, the student must be present on campus and working toward fulfilling the requirements for the degree. Information is available at the Graduate Board page

2.2 Required Introductory Courses and Tutorials

There are three introductory courses and tutorials that most or all graduate students must take.

2.2.1 Responsible Conduct of Research

All M.S.E. and all Ph.D. graduate students will be required to take the “Responsible Conduct of Research” course.

Each Ph.D. student must complete the in-person training course (AS.360.625) by the end of his or her first year of the program. It is possible to take the course after the first year, but it is recommended to complete it by then, when possible. Failure to complete the course could result in the loss of funding.

2.2.2 Graduate Orientation and Academic Ethics

Graduate students are automatically enrolled in the online tutorial EN.500.603 Graduate Orientation and

Academic Ethics, which teaches academic and ethical responsibilities. This online tutorial must be completed in the first eight weeks of the student's first semester. The Whiting School of Engineering will notify new students when the course is available, which will be added to your course registration in SIS. Do not drop the course when you see it.

2.2.3 Laboratory Safety Assessments

To help achieve a high standard of safe laboratory practice, appropriate safety training is required for everyone working in DMSE laboratories. Completion of this safety training regimen, including the annual review, is required for all researchers who use the DMSE laboratories.

More information and the instructions to complete this mandatory safety training are available for download on https://engineering.jhu.edu/materials/about/lab-safety/.

Please complete the canvas quizzes and attend a lab walk through with lab safety manager (dmse@jhu.edu). Once the required forms are completed and signed bring them to lab safety manager, located in room MD 204 to receive access to the laboratories or to schedule additional equipment training. Failure to complete required training in a timely manner, or a failure to adhere to established safety policies and procedures, will result in revocation of laboratory privileges.

2.2.4 Opioid Epidemic Awareness and Title IX & Harassment Prevention

As part of online student orientation activities, you will take the online courses "Opioid Epidemic Awareness" and "Title IX & Harassment Prevention."

These courses are available in your My.JHU.edu page under "My Learning" and search the catalog for "Opioid Epidemic Awareness" and "Title IX Harassment Prevention." Sign in to "My.JHU.edu" with your JHED ID and password.

2.2.5 Effort Reporting System - Certifier

For those receiving a stipend or who will be paid for Teaching Assistant work, the University is required by US Federal Law to account for all work effort performed by every employee – whether staff, faculty, postdoc, or student. This is completed quarterly by certifying an Effort Report.

The academic staff pre-reviews Effort Reports for all student salaries to confirm they are allocated to the correct accounts, then the employee or student is asked to certify the Effort Report. Each employee and student is required to take a brief training of 30-40 minutes.

These courses are available in your My.JHU.edu page under "My Learning" and search the catalog for "Effort Reporting System – Certifiers." Sign in to "My.JHU.edu" with your JHED ID and password.

2.3 Advisors

In most cases, a graduate student's academic advisor will be a full-time faculty member in the Department of Materials Science & Engineering.

DEFINITION

An advisor is best defined as a departmentally approved faculty member or staff member under whose guidance a student is taking courses to complete a degree. Faculty members also will advise students who are conducting research and in whose lab the student is associated and expected to participate. All students must have an advisor.

ONE or MULTIPLE ADVISORS

Occasionally, a student may partake in specialized research where he or she will work with a professor in another department. If this is the case, the student will have two advisors:

- A research advisor, whose primary appointment is in an outside department and may or may not have a secondary appointment in Materials Science & Engineering.
- An academic advisor whose primary appointment is in Materials Science & Engineering.

IF YOU HAVE A CONCERN ABOUT YOUR ADVISOR

If you have a concern about your advisor – whether you have concerns about advising quality, if you believe you and your advisor are not a good match, or if there is an unresolvable conflict – please contact the following people in this order:

1. Todd Hufnagel, Director of Ph.D. Studies – hufnagel@jhu.edu
2. Kalina Hristova, Graduate Admissions Chair - khristo1@jh.edu
3. Lauren Rodgers, Academic Program Administrator – lmodica@jhu.edu
4. Christine Kavanagh, Associate Vice Dean of Graduate Affairs and Lifelong Learning in the Whiting School of Engineering – christinekavanagh@jhu.edu.

Prof. Hufnagel will first try to help you resolve your concern. If he is unable to resolve it, Lauren Rodgers will assist, as will the Associate Vice Dean if we cannot resolve your concern within the department.

2.4 Course Registration and Credits

2.4.1 Credits and Full-Time Status

All Whiting School of Engineering graduate students will register for courses with credits.

- The Materials Science & Engineering degree requirements do not change for the number or types of courses.
- All Whiting School of Engineering (WSE) graduate-level courses (EN.600-level or higher) have credits assigned to them.
- To maintain full-time status, all WSE graduate students must be enrolled in at least 9 credits. Students enrolled in fewer than 9 credits per semester will not meet the full-time enrollment requirement, which may affect residency requirements for all and visa concerns for international students.
- PhD students must enroll in in at least 20 credits per semester. Students can meet this enrollment requirement by registering for any combination of courses and seminars, as approved by one's advisor.
    - Seminars – 1 credit
    - WSE courses, both undergraduate and graduate – 3 or 4 credits
    - EN.510.807/808 PhD Graduate Research – 3-20 credits
    - NOTE:
        - Audited courses do not count toward a full-time credit load. No academic credit will be given but tuition will be charged per credit if an audited course is taken outside the Spring or Fall semesters and when a student is part-time during any semester.

- The maximum per-semester Ph.D. student enrollment limit is 25 credits. If there is a need to register for more than 25 credits, please contact academic staff at lmodica1@jhu.edu. The Whiting School will consider exceptions.

Visit the Whiting School's Frequently Asked Questions page for more information.

If a student wishes to drop a course during the Add/Drop period or subsequent Drop period, the total number of required credits may drop below the required 20 credits. If this occurs, additional credits must be added to EN.510.807/808 PhD Graduate Research to maintain the 20-credit requirement.

After a student registers for a research course, the selected number of credits cannot be changed directly in SIS, but it can be changed by submitting a request on the Student Enrollment and Account management system > Records and Registration > "Other records and registration topic" button, then scroll to the Request Support button. Explain that to maintain the 20-credit minimum you would like to change the number of credits for EN.510.807/808 Graduate Research.

2.4.2 EN.510.809 Graduate Research – Summer – annual enrollment required

The course EN.510.809 Graduate Research – Summer is used as a non-graded, no- assignment placeholder "course" that has no function other to recognize students as full- time, enrolled graduate students. This is necessary to fulfill a US federal requirement that students be enrolled full-time, year-round to be exempt from "FICA" or Social Security Tax from student salaries.

All Ph.D. students must enroll for this tuition-free course for nine credits each summer in their advisor's section.

The academic staff will submit Pass grades at the end of the summer term, which will be reflected in student transcripts.

FICA Tax will be withheld from pay of any Ph.D. student who does not enroll for this course.

2.4.3 Engineering for Professionals – Many Great Courses

Many interesting and relevant online Materials Science & Engineering and other engineering courses are available via our Engineering for Professionals program.

Up to two Engineering for Professionals courses can be counted toward the master's degree.

Visit the EP Courses page to find available courses. The page can be filtered to select Materials Science & Engineering courses.

Please discuss proposed Engineering for Professionals courses with our faculty advisor to confirm that they would qualify for your degree.

The course registration process is different from the standard registration in the Student Information System (SIS). To register for courses offered by the Engineering for Professionals program, courses numbered EN.xx5.xxx, you must register using the Interdivisional Course Registration form. Please visit the Registrar's Interdivisional Registration page for info and the form. Select the IDR – Engineering form.

2.4.4 Interdivisional Course Registration

Students may need to register in another division, like the Engineering for Professionals program or in any of Hopkins's eight other schools. Registration for courses in these areas must be done in person at the Registrar's office in Garland Hall. Visit the Interdivisional Registration page for information.

2.5 Frequency of Course Offerings

Graduate courses are offered in specific semesters, and sometimes in alternating years. Below is a timeframe of elective course offerings listed in the anticipated order of next offering.

These offerings are subject to change due to instructor sabbaticals or unusual situations. Please confirm these offerings when planning your course schedule.

MATERIALS SCIENCE & ENGINEERING – COURSES – ANTICIPATED OFFERINGS in Fall		
Course Number	**Course Name**	**Faculty**
510.601	Structure of Materials	Hufnagel
510.602	Thermodynamics of Materials	Searson
510.606	Structure and Properties of Materials	Spicer
510.621	Biomolecular Materials I– Soluable Proteins and Amphiphiles	Hristova
510.635	Mechanical Properties of Biomaterials	Weihs
510.653	Materials Characterization	Garcia-Mendez
510.654	Nanomaterials for Genetic Medicine	Lian
510.666	Intro. Computational Materials Modeling	Oses
510.801	Materials Research Seminar	Kessler
510.803	Materials Science Seminar	Kessler
MATERIALS SCIENCE & ENGINEERING – COURSES – ANTICIPATED OFFERINGS in Spring		
Course Number	**Course Name**	**Faculty**
510.603	Phase Transformations of Materials (Kinetics)	Curk
510.610	Fundamentals of Biomaterials	Searson
510.612	Thermodynamics and Kinetics of Materials	Luo, Yuting
510.615	Physical Properties of Materials	McGuiggan
510.625	Advanced Batteries	Garcia-Mendez
510.627	Biomolecular Materials II– Biomembranes	Hristova
510.636	Biomaterials for Cell Engineering	Gu
510.662	Transmission Electron Microscopy: Methods	Livi
510.802	Materials Research Seminar	Kessler
510.804	Materials Science Seminar	Kessler

3 Ph.D. Degree Program

The Ph.D. degree certifies that the holder has demonstrated the ability to conduct independent research and develop new knowledge.

3.1.1 Required Courses

Successful completion of four required courses in materials science and engineering:

- 510.601: Structure of Materials
- 510.602: Thermodynamics of Materials
- Either 510.603: Phase Transformations in Materials or 510.610 Fundamentals of Biomaterials
- 510.615: Physical Properties of Materials (see waiver of required courses below)

Each of the four required courses must be passed with a letter grade of B- or higher. If a student receives a grade of C+ or lower in a required course, the student may re-take the course once to achieve a grade of B- or higher. Receipt of grades of C+ or lower in two or more required courses will ordinarily be cause for dismissal from the program without the opportunity to re-take those courses.

In addition, students must maintain an overall grade point average (GPA) of 3.0 or higher in the four required courses. Courses that have been waived (see below) do not count towards calculation of the GPA. If a student's GPA falls below 3.0, the student must re-take one or more of the required courses and earn higher grade(s). Upon doing so the prior grade(s) in those course(s) are replaced and not counted towards the GPA.

Deadline for completion: The four required courses must be successfully completed (meeting the grade and GPA requirements above) no later than the start of the student's third year after matriculation; failure to do so will result in dismissal from the program. Exception: A student who fails to meet the requirements above due to a low grade in a single required course, and who has not had an opportunity to re-take that course during the first two years, will be permitted to re-take that one course in the third year.

3.1.2 Elective Courses

Successful completion of three advanced (600-level or higher) elective courses in materials science and engineering or a related field.

Elective courses must be completed with a grade of C or higher, but there is no cumulative GPA requirement. Any 600-level or higher regular course in materials science and engineering may be used to fulfill this requirement. Courses from other departments may also be used, but must either appear on the list of approved electives or be approved by the Doctoral Program Committee. Students wishing to use a course not on the list of approved electives must submit their request to the Doctoral Program Committee no later than the end of the first week of the semester in which the course is taken.

The following courses may not be used to fulfill the PhD elective course:

- Undergraduate courses, unless cross-listed at 600-level or higher
- Graduate research (510.807-808)
- Courses in part-time graduate programs (Engineering for Professionals in WSE or Advanced Academic Programs in KSAS)
- Seminars (courses with fewer than three contact hours per week)

Independent study courses (510.805-806) may be PhD electives, with prior approval of the Doctoral Program Committee. In some cases an adviser may require a student to complete additional coursework, beyond the

four required courses and three electives described above.

More information about specific courses can be found at: https://e-catalogue.jhu.edu/course-descriptions/materials_science___engineering/

3.1.3 Coursework required by Whiting School of Engineering policy

All students must complete the required coursework:

- Responsible Conduct of Research training (AS.360.624 or AS.360.625) in accordance with Whiting School of Engineering policy. Details about this requirement, including the criteria for determining whether the online or in-person course must be taken, are provided in the description of the policy.
- Training on academic ethics in accordance with Whiting School of Engineering policy. This requirement can be satisfied by passing EN.500.603 (Academic Ethics).

3.1.4 Teaching Assistants

All candidates for the doctorate must complete two semesters as a teaching assistant as part of their training. Students typically complete this in their second year.

3.1.5 Oral Qualifying Exam

As soon as the student is prepared to do so, he/she should fulfill the requirements for candidacy. In addition to general university requirements, the student must successfully pass the following:

- The first examination is an oral Departmental Qualifying Exam based on core courses. This exam is usually taken after the second semester and covers three areas of materials science & engineering:
  - Structure of Materials
  - Thermodynamics of Materials, and
  - Either Kinetics and Phase Transformations in Materials OR Biomaterials (at the student's choice)

Although these subject areas correspond to the four core courses, the topics covered in the exam are not strictly limited to material covered in those courses. Furthermore, each section may include questions related to the properties of materials at a level similar to that covered in EN.510.615 (Physical Properties of Materials).

Additional information about the oral exam is provided in the document Information for doctoral students regarding the oral comprehensive examination, available from the Academic Program Administrator.

3.1.6 Thesis Advisory Committee (TAC)

Each student must form a thesis advisory committee that has three to four committee members. The student is required to write a dissertation proposal and present it orally to their committee no later than the end of the sixth semester following matriculation.

The written dissertation proposal must be submitted to the committee and the academic administrator no later than two weeks prior to the scheduled date of the oral presentation.

The student needs to meet with their thesis advisory committee at least every 12 months and feedback should be sent to the committee and the academic administrator following each meeting. If for some reason there is an issue with scheduling the meeting, the student will need to email the Academic Program Administrator.

More information can be found at: Thesis Advisory Committee

3.1.7 Oral Examinations

Candidates must write a dissertation conforming to university requirements that describes their work and results in detail. A public defense of the dissertation is required, and will be followed by a closed examination session. The committee for the closed examination shall consist of five faculty members, chosen by the Graduate Program Committee, with at least two members being from outside the department. The outcome of the closed examination will be decided by majority vote of the committee. Because the closed examination session fulfills the university Graduate Board Oral (GBO) examination requirement, all procedures pertaining to GBOs as established by the University Graduate Board must be followed.

The committee may impose certain conditions (e.g. changes to the dissertation) for the candidate to meet prior to final certification that he or she has passed the exam. For this reason, the thesis defense must be scheduled for a date at least two months prior to any personal or university deadline for graduation. A complete draft of the dissertation must be submitted to all committee members no later than two weeks prior to the defense.

The dissertation in its final form must be read and approved in writing by two members of the committee (the adviser and one other member to be chosen by the committee as a whole).

3.2 Degree Requirements

The requirements for a Ph.D. in Materials Science & Engineering are as follows:

Fulfill the University-wide requirements by:

a. Completing a minimum of two consecutive semesters as a full-time resident graduate student,
b. Passing the Graduate Board Oral examination (GBO), and…
c. Submitting and defending a dissertation approved by at least three referees appointed by the Materials Science & Engineering Department faculty.

In addition to the University-wide requirements, students must:

a. Pass the Departmental Qualifying Examination (DQE) before the start of the fifth semester as a doctoral candidate. This examination is preliminary to the GBO and its primary purpose is to evaluate the candidate's suitability for continuing study.
b. Act as Teaching Assistant to at least two Materials Science & Engineering courses.
c. For each semester that a student maintains full-time status (that is, not change to non-resident status), each student must register for and pass EN.510.807/808 Graduate Research.
d. While a student maintains full-time status, each student must register for and pass EN.510.803/804 Materials Science Seminar by attending the required number of presentations.
e. Earn an appropriate grade for all classes taken (see Section 3.1.1).

3.2.1 "Pass" Grade Not Accepted

Pass grades are not accepted for courses counting toward the Ph.D. degree.

Deviations to this policy must be explicitly authorized in writing by the Materials Science & Engineering student advisor before the official last day for dropping courses established by the Registrar's Office.

3.3 Academic Performance Requirements

A course is satisfactorily completed if a "P" grade or a grade from A+ to B- is obtained. Grades of C+ or lower are evidence of unsatisfactory academic performance.

A student earning one C+, C, or C- grade will receive notification, with a copy to his or her advisor, of academic probation and an explanation that a second C+, C, or C- or the student's first D or F grade will typically result in termination from the program.

Note: it is possible to earn enough grades below B- in one semester to qualify for termination without receiving probation.

A copy of the notification will be provided to the student's academic advisor, the department's Director of Graduate Studies, the Department Head, and the Whiting School Office of Graduate Affairs. A student advocate from the Whiting School Office of Graduate Affairs is available to offer support as needed.

A student receiving a termination notification can appeal to the Director of Graduate Studies by the official date by which "Incomplete" grades must be resolved for that semester, as established by the Registrar's Office. The Department Head, who may consult with the student and the student's advisor, is required to formulate a final written decision within two weeks after that date.

3.4 Having Academic or Other Troubles? Seek Help Early!

Don't Wait! If you…

…are struggling with course work or exams,

…have trouble attending lectures,

…have emotional or mental health struggles,

…have financial or living space problems,

…are not getting along with your roommates,

…have family concerns,

…feel overwhelmed

Ask for help early! It's okay to ask for help. We all want you to succeed!

- For help with courses, struggles with assignments, and help with anxiety about exams, talk to your academic advisor, course instructor, or teaching assistant.
- For other concerns mentioned above, you can contact these people for help:
    - Allison Leventhal, Student Life Administrator – aleventhal@jhu.edu
    - Christine Kavanagh, Associate Vice Dean of Graduate Affairs – christinekavanagh@jhu.edu.
    - Dr. Annalisa Peterson, Ombuds - https://ombuds.jhu.edu/

3.5 Students with Disabilities - Accommodations and Accessibility

Johns Hopkins University values diversity and inclusion. We are committed to providing welcoming, equitable, and accessible educational experiences for all students. Students with disabilities (including those with psychological conditions, medical conditions and temporary disabilities) can request accommodations for this exam by providing an Accommodation Letter issued by Student Disability Services (SDS). Please request

accommodations for this exam as early as possible to provide time for effective communication and arrangements.

For further information or to start the process of requesting accommodations, please contact Student Disability Services at the Whiting School of Engineering, or contact SDS at 410-516-4720 or studentdisabilityservices@jhu.edu.

3.6 Responsible Conduct of Research

Each Ph.D. student must complete the in-person training course (AS.360.625) of Responsible Conduct of Research before the start of his or her third semester of the program. See Section 2.3.1 of this manual for more information.

4 GBO Exam and Dissertation Defense

4.1 Course Preparation

Although there are no formal course requirements, students are presumed to be prepared for the Final Graduate Board Oral examination by studies equal to six graduate level (xxx.600-xxx.799) courses in their field of specialization and six advanced (xxx.400-xxx.799) courses in related fields. The student's faculty advisor will provide guidance on which courses to take to reach this level of preparation.

4.2 GBO Examinations – General Structure

For the details of the "Final" and "Preliminary" GBO exam, please refer to the Graduate Board Oral Exams page. Students are encouraged to consult with their faculty advisors about questions on the process. Faculty advisors can consult with the Director of Graduate Studies with questions he or she cannot answer.

4.3 Students with Disabilities - Accommodations

Johns Hopkins University values diversity and inclusion. We are committed to providing welcoming, equitable, and accessible educational experiences for all students.

Students with disabilities (including those with psychological conditions, medical conditions and temporary disabilities) can request accommodations for this exam by providing an Accommodation Letter issued by Student Disability Services (SDS). Please request accommodations for this exam as early as possible to provide time for effective communication and arrangements.

For further information or to start the process of requesting accommodations, please contact Student Disability Services at the Whiting School of Engineering, or contact SDS at 410-516-4720 or studentdisabilityservices@jhu.edu.

4.4 Doctoral Dissertation Proposal

The dissertation proposal and oral presentation are requirements of the PhD program in Materials Science & Engineering. The proposal summarizes the research problem that the student is tackling during the PhD and the approach that the student is adopting. The dissertation proposal should also assist the student to place the work in the context of the literature.

4.4.1 Timing

The dissertation proposal and presentation must be completed before the end of the third year. A copy of the written proposal should be provided to the students Thesis Advisory Committee at least two weeks prior to the date of the presentation.

4.4.2 Dissertation Proposal Committee

The dissertation proposal committee consists of three to four faculty members (ideally the same faculty will be members of the GBO/dissertation defense committee), including the research advisor. The committee is selected by the advisor in consultation with the student. Early formation of the committee is recommended.

4.4.3 Written Dissertation Proposal

The written dissertation proposal is due two weeks prior to the date of the oral presentation. The proposal must provide a clear outline of the research, its significance, and the approach. The proposal outline is provided below.

- Title page (1 page)
- Abstract
- Specific Aims (1 pages)
- Research context & Strategy (6 pages, including tables & figures)
- References

You should observe the following formatting requirements:

- All pages must be formatted for U.S. letter size paper (8.5" by 11")
- Margins no smaller than one-half inch on all sides
- Number each page, except the title page, at the bottom center
- Type must be 11 point or larger, using a standard font (e.g. Times New Roman, Cambria, or Arial).

Note well: If your thesis proposal does not meet these formatting requirements, it will be returned to you for correction and re-submission. More information can be found at Thesis Proposal Requirements.

4.4.4 Oral Presentation and Discussion

The total duration of this portion is one hour, generally evenly divided between an oral presentation and a discussion with the committee. The format of the presentation (e.g. open/closed to the public) is decided by the advisor. Public presentations must be followed by a closed session where the candidate and the committee discuss the presentation and the written proposal.

Here are a few resources with suggestions on how to put together a good presentation:

1. Randy Olson, Houston, *We Have a Narrative: Why Science Needs Story*. University of Chicago Press, 2015. ISBN: 9780226270845

High-level stuff about how to organize your presentation (and your written proposal, for that matter) in a way that tells a compelling story.

2. Marilynn Larkin, How to Give a Dynamic Scientific Presentation

Practical advice on the presentation itself.

3. Susan K. McConnell, Designing Effective Scientific Presentations

Lots of good tips on how to use PowerPoint (or Keynote) effectively.

4.4.5 Outcome

The outcome of the Dissertation Proposal is recorded on the Dissertation Proposal form and forwarded to the academic staff at lmodica1@jhu.eu

If the committee finds that the student has demonstrated a deep understanding of the research questions, their context and a proposed approach, no further action is needed.

If the dissertation proposal or presentation do not demonstrate clear command of the topic, the committee can recommend remedial action or re-evaluation of the candidate after six months. A second unsatisfactory performance would automatically lead to academic probation.

4.5 Final GBO / Dissertation Defense

The Final Graduate Board Oral Examination and Dissertation Defense will be presented simultaneously near the end of a Ph.D. student's career.

4.5.1 Examiners and Alternate Examiners

The examination is conducted by a panel of five faculty members: two Materials Science & Engineering professors, two from outside the Department, and one from either Materials Science & Engineering or another Department. One departmental alternate and one outside alternate are also required. The examiners and alternates are selected by the Department Chair in consultation with the student's advisor.

The examination is chaired by the most senior of these outside members, who must be tenured. The examination chair has the right to set the scope of the exam. All examiners and alternates must be available at the same day and time.

4.5.2 Requesting Examiners

The Homewood Graduate Board has established the guidelines for the GBO exam and students should familiarize themselves with these procedures, which include an explanation of how examiners are selected, who should be involved in the process, and obtaining approval for examiners from outside Johns Hopkins University.

4.5.3 Scheduling the Final GBO and Defense – Minimum 8 Weeks' Advance Notice Required

Students preparing to take the final GBO and Dissertation Defense must contact the academic staff to arrange the exam at least eight weeks prior to the intended exam date. Please make sure to email the academic program administrator as soon as possible with the names of your examiners and alternates. Eight weeks' notice will allow time to confirm the availability of the proposed examiners and notify the Graduate Board by their notification deadlines.

4.5.4 International Students must contact the Office of International Services

All international students must contact the Office of International Services (OIS) at least two months in advance of the defense date to ensure that their visa status and application for their EAD card and Optional Practical Training is in place.

When applying for Optional Practical Training, please notify your advisor that you are doing so. As part of the application processing, the advisor will receive a request from the OIS from the iHopkins system. Please ensure that your advisor is aware of your degree level, major field of study (of course, Materials Science & Engineering), expected date of degree completion, if you have completed all course work, and your progress on your dissertation.

4.5.5 Dissertation Readers – Two Readers are Required

The University's Graduate Board requires two readers: your advisor and another JHU professor.

At least one of the two readers must be a full-time tenure-track Materials Science & Engineering professor, whether that is your advisor or another professor. With the Department Head's and the University Graduate Board's prior approval, the third reader can come from outside of Johns Hopkins University. Visit the Graduate Board website on GBOs for info.

5 After the Dissertation Defense

5.1 Academic Deadlines

Students completing their degrees should contact the academic program administrator to ensure that all necessary forms and requirements are completed and submitted prior to the academic deadlines for the semester. Information is available in the "Preparing for Graduation" page.

The deadlines to submit all certification material are usually:

- Fall: late-October
- Winter: mid- to late-January
- Spring: late-March (PhD), early-May (MSE)
- Summer: late-July

Students who have not completed their requirements by the first day of classes must register for the current semester.

5.2 Submission of Dissertations

Ph.D. dissertations will be submitted only by electronic media. For information, contact the Library ETC office at 410-516-7720 or dissertations@jhu.edu.

5.3 Confirmation of Degree Completion

Those who have completed their requirements in the summer or fall will receive an interim certificate from the registrar's office indicating that all requirements have been met, and notation will be made on their transcript. Additional information is available in the Whiting School Graduate Policies and Procedures page.

There are a variety of options to obtain confirmation of degree completion, also called an "anticipated degree completion" letter. This may be necessary if one's diploma has not yet been issued or if confirmation other than a diploma is necessary.

- Many employers, universities, and entities will accept a letter from the Department of Materials Science & Engineering. Please contact the academic staff to request an "anticipated degree completion" letter.

- Some employers, universities, and entities will require confirmation at the school or university level. Please contact Christine Kavanagh, Associate Vice Dean for Graduate Affairs and Lifelong Learning at christinekavanagh@jhu.edu to request this "anticipated degree completion" letter.
- The Registrar will provide degree verifications after the degree is conferred. Visit the Enrollment and Degree Verifications page to request one.

6 Policies - General Information

The Whiting School of Engineering and Johns Hopkins University set and administer a variety of policies that affect students. The following websites provide information on these policies; but are not all-inclusive. Your academic staff can help with policy questions and interpretations.

- Time Off, Vacation, and Leave
- Policy on Mentoring Commitments for PhD Students and Faculty Advisors
- Graduate and Postdoctoral Affairs at Homewood
- Graduate Residency and Registration
- Whiting School of Engineering's Graduate Academic Policies
- University General Graduate Student Policies – rights and responsibilities, funding, research integrity, good standing
- Johns Hopkins University E-Catalog section for Graduate Students
- Johns Hopkins University Policy on Probation, Funding Withdrawal, and Dismissal

7 Miscellaneous Academic Information

7.1 Graduate Student Annual Evaluations

Johns Hopkins University and The Whiting School of Engineering requires that once per academic year all full-time Homewood graduate programs carry out a written evaluation of all doctoral and master's students conducting thesis research. The evaluation process includes the opportunity for the advisor to initiate the student evaluation on his or her research and academic progress. The Ph.D. Professional Development Policies and Resources policy describes what is to occur during an annual evaluation.

Materials Science & Engineering Graduate Program Committee, with the support of the faculty, created a formal annual evaluation form, thinking it is good practice and a worthwhile investment. The evaluation form is in the back of this manual and is emailed out annually by the academic staff.

In Spring, advisors will initiate the evaluation process with their doctoral students and master's students conducting thesis research, who will be expected to complete the evaluation form and meet with their advisors to discuss progress and goals for the next year. The student and advisor will both sign the evaluation, after which it will be delivered to the Academic Administrative staff by August 1.

For students with more than one advisor - both advisors should participate in the evaluation process and must sign the evaluation form.

For students with a primary advisor outside the Department of Materials Science & Engineering and have a second advisor who is a full-time tenure-track Materials Science & Engineering professor - both professors must participate in the evaluation and sign the evaluation form.

Incomplete evaluation forms will be returned to the student for completion.

7.2 Departmental Seminars

Part of the graduate experience is to be informed and learn to evaluate the research done by others, both here at Johns Hopkins and at leading institutions worldwide.

EN.510.803/804 MATERIALS SCIENCE & ENGINEERING GRADUATE SEMINAR

REGISTRATION IS REQUIRED for all Ph.D. STUDENTS and attendance is required.

Wednesday at 3:00 p.m.

Students who miss more than two seminars can count seminars from other departments by submitting a memo to the department head and the academic staff.

If students have a scheduling conflict that prevents them from enrolling in the first six semesters as a student, they can postpone enrollment and enroll in a later semester.

Students must notify their advisors as well as the academic staff at lmodica1@jhu.edu so a record of the approval of the postponement is kept.

7.3 Ethics

Unethical behavior can lead to a student's expulsion from the program. Graduate students are therefore expected to be aware of what actions constitute unethical behavior. For example, students must submit work that represents their own efforts. Whenever ideas or results are drawn from other sources, those sources must be cited in the submitted or presented work. **Unless otherwise explicitly permitted by the instructor for that course, students must not collaborate or discuss any assignments prior to submission of the work.** Students must be aware of and adhere to the ethical issues associated with the use of, and in particular the duplication of computer software and must abide by the rules of use set by the developer.

8 Master's Degree

The Master's (M.S.E.) degree may be a final degree or it may be earned en route to the Ph.D. The requirements for the M.S.E. degree in the Materials Science & Engineering (MSE) department are as follows:

1. Satisfactory completion of eight one-semester 3-4 credit graduate courses (xxx.400 - xxx.799) approved by the advisor.
    a. Three core courses in materials science & engineering
        - 510.601: Structure of Materials
        - 510.602: Thermodynamics of Materials
        - 510.603: Phase Transformations in Materials or 510.610 Fundamentals of Biomaterials
    b. Five 600-level or higher electives in materials science and engineering or related fields (three 400-level or higher electives may be allowed with prior program and advisor approval) subject to the following rules:
        - Each elective must be worth at least three credits. Multiple course that add up to three credits may be used in place of one three-credit course with approval from the advisor and Director of Graduate Studies (DGS).
        - Up to two of the elective courses may be taken from the Engineering Programs for

Professionals (EPP) part-time program

- Up to two of the electives may be business courses.
- Any elective taken outside of the department (including all EPP courses) requires prior approval from the advisor and DGS. The DGS will determine the appropriate number of credits for any elective taken outside the Whiting School of Engineering.
- With the approval from the DGS, the student may transfer up to two graduate courses from another institution. Students desiring such credit must make the request in writing to the DGS by the end of the first semester after matriculation. This request must include a description of the course, a course syllabus, and documentation of the grade received. Please note that transfer coursework grades do not count towards calculation of the GPA.

c. The MSE Seminar Course (510.803/804) and Graduate Research courses cannot count towards the electives.

d. Students are required to take the EN.510.803/804 MSE Seminar for two semesters.

2. In addition to the eight courses above, students must also fulfill one of the following three requirements:

   a. Satisfactory completion of two additional one-semester 3-4 credit graduate courses (xxx.400 - xxx.799). The number of additional courses depend on if the student decides to take the two combined core classes or the three core classes.

   b. A master's essay or journal publication is required. A master's essay must be approved by one faculty reader and conform to the requirements of the WSE Graduate Committee. For a journal publication, a student must submit to the Master's Degree Committee an article describing his or her original research that has been published (or accepted for publication) in an archival, peer-reviewed technical journal. The student must be the primary author of the article.

   c. Research for the master's essay or journal publication may be conducted with a corporate sponsor through the INBT Co-Op program.

Full-time MSE students are expected to take at least three, 3-4 credit courses for each of their first two semesters.

To fulfill requirements 1 or 2, a course is satisfactorily completed if a grade from A+ to C- or a "P" is obtained. No more than one C+, C, or C- and/or "P/S" grade can be counted toward the degree requirements.

8.1 MSE Essay/Publications

The MSE department requires the students to send a draft of their essay to their advisor one month before the last day of classes. The final draft of the essay must be submitted to your advisor one week before the end of class. Your advisor will need to approve your essay by signing the Essay Approval Form. Once your advisor agrees that the essay is acceptable, then you must submit the final essay and the Essay Approval form to the Master Department Committee Chair and the Academic Administrator one week after the last day of classes.

If the student chooses to submit a publication that has not been published, then the student's advisor must submit a letter to the Master Department Committee Chair and the Academic Administrator with the following information:

- Publication submitted to

- Date of submission
- Publication date (advisor must attest it will be published)
- Title
- Brief Description of publication

Master's essays may be submitted to the library for publishing. For information, see http://www.library.jhu.edu/library- services/electronic-theses-dissertations/.

8.2 Grading and Double-Counting Policies

No more than one C grade (C+, C, or C-) can be counted toward the master's degree course requirements.

Pass grades are not accepted for courses counting toward the master's degree.

The Materials Science & Engineering department double-counts courses using Whiting School of Engineering policy on the Whiting School Graduate Policies page. Beginning in Spring 2024, note that while the Whiting School will allow up to three courses to be double-counted, departments can choose to accept fewer than three.

The department of Materials Science & Engineering will accept up to two graduate-level courses for a total of at least six credits that are letter-graded B- or higher.

Under special circumstances, the department will consider accepting a third course on a case-by-case basis. Your academic advisor or the academic staff (at lmodica1@jhu.edu) can answer questions about this policy.

8.3 Degree Completion Information

Students who have completed the requirements for the M.S.E. degree should complete both the "Application for Graduation" and email the Academic Program Administrator for confirmation of eligibility.

The master's degree completion deadlines are available at the Whiting School Graduate Policies page. Be sure to meet the deadlines when completing your degree and related applications to graduate.

8.4 Master's Degrees Outside Materials Science & Engineering

Students can earn a master's degree outside of Materials Science & Engineering in lieu of the MSE Materials Science & Engineering degree. Students should consult with their advisors to include required courses for outside degrees in their course and research plans.

Students can earn master's degrees in Robotics, Applied Math, Materials Science, Computer Science, Earth and Planetary Sciences, and more! Visit these pages for available degree programs:

- Whiting School of Engineering master's degrees
- Engineering for Professionals master's degrees
- Krieger School of Arts and Sciences master's degrees

9 Part-Time, Non-Residency, and Leave of Absences

9.1 Part-Time Status

Materials Science & Engineering Ph.D. students may switch to part-time status after the successful

completion of the Graduate Board Oral examination and the Teaching Assistant requirement, with approval of both the research advisor and the Graduate Program Chair, as well as the International Office for international students.

PART-TIME TUITION

Students are charged tuition per-credit. See the Student Accounts Tuition and Fees page for info on tuition costs per-credit. The student's advisor or the department may choose to cover this charge, but that is not guaranteed.

COURSE REGISTRATION

Part-time students will take three credits of EN.510.807/808 Graduate Research each semester and some may continue to take the one-credit EN.510.801/803 Materials Science & Engineering Graduate Seminar.

Once a student is on part-time status, the research advisor may excuse the student from the Materials Science & Engineering Graduate Seminar requirement. Part-time students or their advisors will pay the part-time per-credit tuition.

PART-TIME RESTRICTIONS

- Part-time American students are ineligible to work as a student worker, including as a Teaching Assistant, and will not be eligible for graduate student salary.
- Part-time International students in their final semester are eligible to work as a student worker only in hourly-paid positions.
- Part-time students enrolled in the University health insurance must pay the full premium.

HOW TO OBTAIN PART-TIME STATUS

- Contact the academic staff at lmodica1@jhu.edu to confirm eligibility to switch.
- Obtain approval from both the research advisor and the Graduate Program Chair
- International students must first obtain approval from the Office of International Services.
- Information on Whiting School Graduate Credit Hours

9.2 Non-Residency Status

Whiting School graduate students are eligible for non-residency status when all degree requirements except the writing of the dissertation are complete. The dissertation research must be finished before the non-resident status can be obtained.

Whiting School graduate students are typically granted only one semester of non- residency with the expectation that the dissertation will be written and prepared for defense in that semester. The dissertation defense can occur during that semester or shortly thereafter. The Whiting School will consider exception requests for an additional semester of non-residency.

NON-RESIDENT TUITION

Non-resident students pay only 10% of the full-time tuition but will still have all the privileges of full-time students such as access to campus services and faculty advising.

NON-RESIDENT RESTRICTIONS

Non-resident students cannot enroll in courses and would lose the Whiting School's financial support for health insurance. The department could choose to cover health insurance charges, but that is not guaranteed.

Non-resident students are automatically enrolled in health insurance, but can waive the insurance, if eligible, for waiver by proof of enrollment in another health insurance plan with similar coverage.

To maintain non-resident status, students will have to register for non-resident status each semester and provide a letter explaining their progress toward the degree's completion.

HOW TO OBTAIN NON-RESIDENT STATUS

- Contact academic staff at lmodica1@jhu.edu if you are unsure of your eligibility for non-resident status. They will help you confirm, if youneed.
- Complete the Non-Resident Status Application form, which the staff will sendto the Whiting School Academic Affairs office for approval.
- If the Non-Resident request is denied, a student may be eligible forpart-time status.

9.3 Leave of Absence

Occasionally, extenuating circumstances may require graduate students to take a leave of absence from their studies.

Graduate students may apply for up to four semesters of leave of absence when medical conditions, compulsory military service, or personal or family hardship prevents them from continuing their graduate studies.

Visit the Homewood Graduate and Postdoctoral Affairs page for Enrollment Change forms. Select the appropriate form to either request, extend, or return from a Leave of Absence.

The forms will explain that student privileges, degree progress, and access to health insurance may be affected.

Please complete the form, obtain the appropriate signatures, and obtain the required documentation as noted on the form, and send the completed form and supporting documentation to the academic staff at lmodica1 @jhu.edu.

RESOURCES

- Homewood Graduate and Postdoctoral Affairs page for **Enrollment Change forms non-resident and leave of absence**.
- Graduate Residency and Registration Policies
- Graduate Board Forms, which include the **Non-Resident Application** and the **Non- Resident Annual Report**
- Whiting School of Engineering Policy on Health Insurance > select **Health Insurance**

10 Financial Aid

The Department of Materials Science & Engineering covers the first year of a students graduate program, with the advisor covering the rest of the years of study.

External fellowships provide significant flexibility in the choice of advisor and research program. Examples include:

National Science Foundation Graduate Research Fellowship: http://www.nsfgrfp.org/

National Defense Science and Engineering Graduate Fellowship: https://ndseg.sysplus.com/

Science, Math, and Research for Transformation (SMART): https://www.smartscholarship.org/smart

Hertz Foundation Applied Science Fellowship: http://www.hertzfoundation.org/

Computational Sciences Graduate Fellowship: http://www.krellinst.org/csgf/

Stewardship Science Graduate Fellowship: https://www.krellinst.org/ssgf/

10.1 Stipends/Pay

AY 2025-2026 PhD Stipends: $50,000

10.2 MTA All Access Bus Pass & U-Pass

PhD students are eligible to be reimbursed for bus passes purchased through the MTA All Access College Program or through the U-Pass program. PhDs can be reimbursed for two passes at one time. Each pass is valid for 31 days. Reimbursement for passes will be processed through concur and must be submitted within 90 days of payment. PhDs must opt-in to have their information shared with the MTA / U-Pass for discounted bus passes. To Opt-In, PhDs must complete the form here.

To submit your receipt to Concur, please visit: https://login.johnshopkins.edu/concur. Prior to submitting a reimbursement in Concur, you must gather the required information to complete the reimbursement request, including the cost object number from your department or program. Your department or program is required to provide guidance on using Concur.

10.3 Teaching Assistant

To assist in the teaching function of the Department, Teaching Assistant opportunities are provided to students who grade papers, conduct laboratories, and hold office hours.

Ph.D. students are required to act as a Teaching Assistant for two courses for approximately 10-15 hours per week during the semester to fulfill this portion of their degree requirements. Remuneration of Teaching Assistant positions – both the two required for the Ph.D. degree and any additional Teaching Assistant work - are included in the standard compensation per the Ph.D. Teachers and Researchers Union Collective Bargaining Agreement.

The Department will announce opportunities for available positions each semester.

10.4 Other Financial Aid

The Office of Student Financial Services has other financial aid sources available, even to those who current have full financial support, including research assistantships and some fellowships. Any enrolled or accepted graduate student who is a U.S. citizen, U.S. permanent resident, or eligible non-citizen may apply for federal and state financial aid. Sources of aid, eligibility requirements, applications, and other information are available.

10.5 Collective Bargaining Agreement

The three-year CBA, or contract between TRU-UE and Johns Hopkins University, can be found at https://provost.jhu.edu/wp-content/ uploads/2024/06/TRU-UE-Local-197-Johns-Hopkins University-Contract-2024-2027-SIGNED.pdf (This copy of the CBA is subject to final review and signature by JHU and TRU-UE).

11 Administration

11.1 Department Offices

The Department Administrative Office is located in Maryland Hall 206. The office provides services and assistance to faculty, staff, graduate students, and undergraduate students. All purchasing, payroll, budget and accounting transactions, shipping, receiving, and other administrative services are handled through this office.

11.2 Supplies and Services

Most of the services you will need will be provided through the Department Office.

COPIER and SCANNER - Graduate students are welcome to use the department copier in Maryland Hall 205 for tasks related to the conduct of research or the academic pursuits of the faculty. Informal training of use of the copier and its features is available.

STUDENT MAILBOXES - Graduate students may opt to have a mailbox on the 2nd floor of Maryland Hall. Mail is ordinarily distributed daily. It is important to check your mailboxes regularly. The administrative staff will help with questions regarding pickup, delivery, postage, and Express Mail services.

SHIPPING AND RECEIVING - FedEx regularly delivers to the Department Office. FedEx picks up on demand and delivers as required. Other carriers may be used in special circumstances.

An e-mail will be sent to you notifying you of any delivery that has arrived for you, which is stored in the receiving area in Maryland Hall 205. When picking up a package, sign and date the package log before taking your package. Outgoing shipments must be received in the Department Office before 2:00 p.m. As a convenience, personal items may be shipped and received through the Department Office, but the Department does not pay shipping fees for these. Please contact the administrative staff in Maryland Hall 206 with your questions.

OFFICE EQUIPMENT - Paper cutters, staplers, and other items are available for general use. These items must be kept in Maryland Hall 205.

11.3 Additional Services and Resources

The University offers a variety of services. These are among some that cater to graduate students:

- Registrar
- Parking and Transportation Services
- Center for Social Concern – service opportunities and advocate for social change
- Campus Ministries – for all faiths and those seeking spiritual growth
- Counseling Center – whenever we need a little extra help from our friends
- The Hub – the University's official news publication
- Johns Hopkins Magazine

12 Purchasing and Travel Reimbursements

12.1 Account Numbers are Necessary for Purchases

Account or "budget" numbers for research project expenditures are extremely important. Your advisor has a series of account numbers, and will supply you with the number to use for purchases. Orders cannot be processed without this number, which is either a 9-digit "Internal Order" number for sponsored projects or a

10-digit “Cost Center” for non-sponsored accounts.

12.2 Ordering Equipment, Supplies, and Services

Orders for the purchase and acquisition of supplies, equipment and materials must be arranged with the Accounting Specialist. Orders must be received by 3:00 p.m. to allow the possibility of same-day ordering. Orders received after 3:00 p.m., in most cases, will be ordered the next business day.

Send your orders with the following information:

- The vendor’s name and contact information – include, when possible, the postal address, telephone number, e-mail address, and the vendor’s website address.
- Description of the item
- Part number
- Price or valid vendor quote
- The complete Internal Order or Cost Center number to be charged.
- Approval from your advisor or principal investigator, as necessary.
- Tag number for any “equipment” (see sections 9.2.1 and 9.2.2).

Do not send a “shopping cart” link or other link to the product, because the information on the link may change between the time you send the request and the time of the order.

12.2.1 Equipment Items

Equipment is defined as an article of non-expendable, tangible property having a useful life of more than one year and an acquisition cost of $5,000 or more per unit. To order such equipment, three quotes from three vendors are necessary, or a sole source justification letter explaining why a specific vendor must supply the item must be provided.

12.2.2 Tag Numbers

The JHU Office of Cost Analysis is responsible for identifying, recording, and tagging equipment. Whenever possible, equipment items costing $5,000 or more are tagged with a University property tag, using a tag that contains a bar-coded property identification number. Property tags are affixed to equipment by Cost Analysis staff in a standard, visible location on the equipment.

Never remove the Tag Number from your equipment! The bar-coded Tag Number labels are self-destructive. When removed, bar-coded labels leave a checkered design imprinted on the equipment and the tag cannot be reapplied.

12.2.3 Component Parts

Component parts are those that will be used to fabricate or build a piece of equipment. Parts to be used in the fabrication of an item of equipment are defined as “equipment” when the total cost is more than $5,000.

Installation costs and freight charges are considered a part of the cost of equipment. They should be included in the total cost and charged to an equipment object code if the total cost is more than $5,000.

12.2.4 Supply Items

Supply items are defined as articles that cost less than $5,000 and/or have a useful life of less than one year.

12.2.5 Replacement Parts

Items purchased as replacement parts for a particular piece of equipment are considered supply items since they do not enhance the value of the piece of equipment.

12.3 Return of Merchandise Purchased with a Purchase Order

In the case where merchandise must be returned to the vendor because it is not suitable or a duplicate shipment was received, please observe the following procedures:

- It is your responsibility to contact the vendor to explain the reason for the return and request a Return Merchandise Authorization (RMA) Number. Ask the vendor if they will pay the return shipping charges, and if so, what procedure should be used to ship the merchandise. Often the vendor will send you a return- shipping label.
- Label the item with the vendor's name and address; write the RMA Number clearly on the package next to the mailing label.
- Bring the package to the Department Office and notify our Administrative Coordinator that the package is a return. Be sure to provide an account number to apply shipping charges.

12.4 Get a Tax-Exempt Sales Certificate

JHU is a non-profit organization, and therefore, is exempt from paying sales tax. **If purchases are made with personal funds, sales tax will not be reimbursed to you**.

Purchasing equipment or materials with a personal credit card or with cash is not recommended, but if you absolutely need to do so, please obtain a copy of the

tax-exempt sales certificate in the Department Office before making your purchase. Presenting this certificate at the time of purchase will eliminate sales tax from your bill, in most cases.

Please print and keep the current Tax-Exempt Sales Certificate.

Note that some stores, e.g., Wal-Mart will require that you obtain an in-store tax exemption certificate in addition to the JHU tax exemption. Please check with the store before making purchases to ensure that you have all required documents.

12.5 Reimbursements

Students can be reimbursed for official travel and out-of-pocket expenses for the purchase of materials and supplies. Receipts and credit card statements must be uploaded in concur within 60 days of purchase for it to be reimbursed. Expenses must be approved by department before submission. Any questions you can email the Academic Program Administrator.

12.6 Travel

12.6.1 Preferred Vendor: World Travel Services

World Travel Services (WTS) is a preferred vendor for travel arrangements. They will send invoices instead of

requiring a credit card up front, so your credit line will not be accessed or held while waiting for reimbursement or payments. Contact jhutravel@worldtravelservice.com for information.

12.6.2 Travel Expense Reimbursements

It is the responsibility of all Johns Hopkins travelers to comply with the policies governing travel. Persons traveling on behalf of Johns Hopkins should exercise good judgment with respect to incurring travel expenses and are expected to spend funds prudently. Travel-related expenses will be paid or reimbursed by Accounts Payable Shared Services if they are deemed to be reasonable, properly documented, provide the appropriate approvals and are within the guidelines of this policy.

Johns Hopkins University Travel Policy and Procedures

Johns Hopkins University Travel Policy

Johns Hopkins University Expense Quick Guide (Travel Policy Appendix B)

Johns Hopkins University Fly America Policy

How to Book:

Concur Online Booking Tool:

Eligible travelers should book travel with World Travel Inc. (WTI) agents directly or via Concur. Concur is the online booking tool that links with WTI systems for comprehensive coverage of your travel needs. Click the icon below to access Concur via single sign-on to complete an online booking or maintain your traveler profile. If you have not completed your profile, please do so by clicking the Concur icon - completing your profile is necessary before booking travel with WTI.

Booking Travel Using Your Department's Central Bill Travel Card

Some departments have opted to utilize the Central Bill Travel Card as a payment option to support travel for faculty, staff, students, and guests. If your department has a Central Bill Travel Card (CBTC) and you would like to request to use it to book your travel, please complete the appropriate webform. For additional information on this card program, which form to use, and how to complete a webform, please visit the CBTC page on the portal.

If you have any questions regarding the status of a travel request authorization (TRA) you have already submitted, please email the JH Travel Office at jhtravel@jhu.edu.

Booking for Guests or Groups (e.g., Faculty recruits, conference attendees)

WTI can support your booking needs for guests or groups. To begin the booking process for guests and/or groups, please contact the JH Travel Office at jhtravel@jhu.edu or you are welcome to use a web-based process to manage requests and approvals for booking guests and groups. For the web-based process, please click here for more information.

If you are booking guests in Concur, please use your email address (as opposed to the traveler's) in order to ensure receipt of the final, ticketed itinerary that should be used for reimbursement

12.6.3 Reimbursements for Air Travel

To reimburse air travel costs, you will need a credit card statement reflecting the cost of the ticket, along with payment confirmation from the airline. For upgrade, luggage, or other additional charges, a receipt is required. A flight itinerary from the airline will not be accepted because proof of payment is not indicated.

12.6.4 International Air Travel and the Fly America Act

The Fly America Act should be followed when foreign travel is required. Federal regulations require that individuals whose travel is supported by federal funds use American flag carrier airlines. Most sponsored accounts have federal fund sources. If you have questions, please see our Administrative Coordinator before arranging air travel.

12.6.5 Automobile Insurance

JHU carries automobile insurance coverage; therefore, if you rent a car that is used for University business, DO NOT purchase additional insurance coverage. You will not be reimbursed for that purchase.

13 Payroll

Pay is distributed semi-monthly, on the 15th and the last day of the month. If payday falls on a weekend or holiday, paychecks are distributed the last regular working day preceding the payday. Checks will be placed in your mailbox.

You may set up direct deposit in your person Employee Self-Service file.

1. Visit My.JHU. Sign in with your JHED ID and password.
2. Select the "HR" Icon on the left side of your "home" screen.
3. Then select the "ESS" icon. Follow the instructions to sign in and select the "Payroll Information" link

13.1 Research Assistantships

Research Assistantship stipends are subject to Federal and State tax withholding, which is done automatically through HR/Payroll Shared Services and will be reflected on the pay stub. Students will want to complete a W-4 Federal Tax withholding form and a MW-507 Maryland State withholding form and return them to University Experiential Learning (formerly Student Employment Services).

13.2 Fellowships

Stipends are paid to those students on Departmental or other Fellowships.

NOTE: Fellowship stipends usually have no income tax withheld.
Students on fellowships are responsible to file and pay income taxes.

Students receiving stipends may have to file quarterly withholding reports with the Internal Revenue Service. For information contact the Tax Office at 443-997-8442 or tax@jhu.edu.

14 Safety and Security

14.1 Laboratory Safety

To help achieve a high standard of safe laboratory practice, appropriate safety training is required for everyone working in DMSE laboratories. Completion of this safety training regimen, including the annual review, is required for all researchers who use the DMSE laboratories. More information and the instructions to complete this mandatory safety training are available for download on https://engineering.jhu.edu/materials/about/lab-safety/.

Please complete the canvas quizzes and attend a lab walk through with Alden Murphy (amurph57@jhu.edu). Once the required forms are completed and signed bring them to Alden Murphy to receive access to the laboratories or to schedule additional equipment training. Failure to complete required training in a timely manner, or a failure to adhere to established safety policies and procedures, will result in revocation of laboratory privileges.

14.2 Safety Resources

The JHU Department of Health, Safety and Environment maintains a website to ensure updated information on policies, issues, and concerns are available to all. Their website offers directives concerning Safety Responsibilities and Policies, Environmental Monitoring, Fire Safety, Chemical Safety, Laboratory Safety, and Radiation Safety.

Also, visit the Laboratory Safety page for important information.

14.3 Campus Security

While the Hopkins Security Department provides ample and appropriate security to the campus, they remind us that we must play our part. Please exercise common sense when entering and leaving your office, classrooms, and labs.

- When you leave your office, if you are the only one there, lock the doors even if you leave only for a minute! Thefts take only a few seconds and valuable equipment and your work can disappear instantly.
- Secure your computers, especially laptops! Take your laptops with you when you leave your office.
- Back up your work onto separate systems in case something happens to computer via virus, equipment problems, or theft. The University provides free anti-virus software.
- Secure your laptop cases or any bag that might be mistaken for a computer bag.
- Lock your car and do not leave any items inside your car in plain sight. Secure them in your trunk or bring them with you.
- Secure your personal items such as your purse, wallet, books, equipment, and your coat or jacket.
- If you see someone suspicious in your lab or office, do not confront the individual, contact Security at 410-516-7777 right away. Your personal safety is most important.
- If you are uncomfortable walking through campus or to your car at night or otherwise are concerned for your safety, the Security department provides escort services to selected locations. Call 410-516-8700 to arrange for an escort.

15 Facilities

15.1 Graduate Student Offices

As space provides, full-time Ph.D. graduate students are provided with a desk in a group office. In consultation with the faculty Space Committee, the department assigns the desks. *The department does not furnish computers or other desk supplies*.

The department will provide you with your office assignment, as well as arrange to issue you keys or provide J-card swipe access.

15.2 Libraries

The Milton S. Eisenhower Library offers a variety of online, research, and book lending services.

We have a dedicated librarian who will help students with finding research information, library services, and other resources. The librarian also advocates and budgets for subscribed online resources. Mr. Stephen Stich is the librarian for the Department of Materials Science & Engineering. He welcomes your inquiries at sstich@jhu.edu.

15.3 WSE Manufacturing

The WSE Manufacturing student machine shop is located in the basement of the Wyman Park Building, and is open to students, faculty, and staff across the Johns Hopkins University. An orientation regarding shop safety, shop rules, and equipment operations is required before one can work in the student machine shop.

To learn more about the WSE Manufacturing equipment and services available to students, please visit their website.

15.4 Computing

There are a cornucopia of computing facilities and services available to the Johns Hopkins community. The Information Technology website offers an overview of the IT Organization, its projects and services, support for applications and general questions, and news about emerging technologies and strategic imperatives, as well as e-mail, web, and file sharing services.

15.5 JHU Information Technology

Information Technology at Johns Hopkins is the online resource for IT-related information. Their primary focus is to support the missions of the Johns Hopkins Institutions and provide technology solutions for faculty, staff, patients, and students in support of teaching, research, and patient care.

This Web site serves as a repository for all IT-related information at Johns Hopkins. You will find a lot of useful information within this site, including an overview of the IT Organization, its projects and services, support for applications and general questions, and news about emerging technologies and strategic imperatives.

15.6 WSE Information Technology

WSE IT is tasked with supporting the IT needs of the Whiting School of Engineering community. They are a component of the WSE Dean's office, and not a branch of IT@JH. Please visit their website to learn how WSE IT can serve you.

15.7 Software Downloads

The university owns licenses of many software packages, many of which may be downloaded from the WSE IT website.

15.8 Lab Locations

Materials Characterization and Processing (MCP):

JHU Stieff Building

800 Wyman Park Drive

Baltimore, Maryland 21211

Maryland Hall (MD)

Erlebacher Lab: MD 10, 14, 43A, 50, 136

Fairbrother Lab: MD 7

Gu Lab: 138C

Hristova Lab: MD 8

Hufnagel Lab: MD 17A, 17B

Kessler Lab: MD 138A

Lin Lab: MD 136

Spicer Lab: MD 9, 12

Taheri Lab: MD 4, 15,16

Weihs Lab: MD 11, 13, 14

Krieger

Katz Lab: KR 9-12

Kessler Lab: KR 5

McGuiggan Lab: KR 157

Croft Hall

Gu Lab: Croft 141

Hristova Lab: Croft 202, 210, 220, 231, 235, 237

Lin: Croft 365

Mao Lab: Croft 330, 385

Searson Lab: Croft G5, G09, G10, G11, G12, G20, G27, G29

16 Student Disability Services

The Office of Student Disability Services (SDS) assists full-time undergraduate and graduate students in the Krieger School of Arts and Sciences and the Whiting School of Engineering with disability concerns, in compliance with the provisions of the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. SDS assists the University community in understanding the effects of disabilities and in eliminating the physical, technical, attitudinal and programmatic barriers that limit the range of opportunities for students with disabilities, as well as provides individuals with reasonable accommodations. The SDS maintains and protects the confidentiality of individual records as required by law.

For additional information and to access the services of the SDS office, please contact them at 410-516-4720 or studentdisabilityservices@jhu.edu, or visit their office in 385 Garland Hall.

17 Student Groups and Activities

17.1 University and Departmental Graduate Student Representation

Each year the graduate students elect a full-time Ph.D. student to serve as a departmental representative to the Homewood Campus's Graduate Representative Organization. The GRO is an advocacy group for all graduate students. They serve the student body as a liaison to Homewood's schools, administration, and dean's offices as well as hosts social activities and provides extensive information about life on campus and in and around Baltimore.

Each department sends a graduate student representative to serve in the GRO, and an announcement is made each year as to who will represent the department. You are welcome to forward to the representative your questions and concerns.

17.2 Johns Hopkins University

- **Campus Life**
- **Arts and Culture**
- **Recreation Center** – grad students have free membership.
- **Hopkins Athletics**

17.3 In the Baltimore Area

- **Baltimore Collegetown** – things to do and resources for college students
- **Baltimore Area Convention and Visitors Association**
- **Baltimore Office of Promotion and the Arts**

18 Notice of Non-Discriminatory Policy

The Johns Hopkins University admits students of any race, color, sex, religion, national or ethnic origin, handicap or veteran status to all of the rights, privileges, programs, benefits and activities generally accorded or made available to students at the University. It does not discriminate on the basis of race, color, sex, religion, sexual orientation, national or ethnic origin, handicap or veteran status in any program or activity, including the administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other University-administered programs. Accordingly, the University does not take into

consideration personal factors that are irrelevant to the program involved.

Questions regarding access to programs following Title VI, Title IX, and Section 504 should be referred to the Affirmative Action Officer, 205 Garland Hall, 410-516-8075.

19 Appendices

Please see the next page for appendices.

Department of Materials Science and Engineering
Doctoral Candidate Annual Review

Student information

Name:	JHED ID:
Research advisor:	Hopkins ID (SIS):
Review for year 20_	Date entered PhD program:

Instructions for the student

The purpose of the annual review is to ensure that you are on track towards completion of your degree, and to assist your advisor and the department in mentoring you towards your career goals.

The review has five parts, the first four of which are in this file:

1. A report of progress towards the PhD degree, including completion of formal requirements (such as courses taken and exams completed) and production of research products (such as papers, presentations, and patents).
2. A self-evaluation of your scientific and technical accomplishments as well as your professional development. In addition to describing your accomplishments, in this section you set goals for the coming year and assess progress against last year's goals.
3. Your advisor's evaluation of your research progress and professional development, along with suggestions for improvement.
4. Documentation that you have discussed Parts 1-3 with your advisor.

To complete the review, fill out Parts 1 and 2 and give the file to your advisor, who will complete Part 3. The two of you will then meet to discuss your progress towards your degree and your professional goals, and document this meeting in Part 4. If necessary, you may revise Parts 1 and 2 to reflect your discussion with your advisor.

Please be aware that your annual review will be read by the Doctoral Program Committee and the Department Chair. In some circumstances your responses may be read by other members of the faculty, after redaction of any personally-identifying information. All of your reviews will be retained on file for one year after you have left the PhD program, after which they will be deleted.

Although not part of this annual review, if you have any concerns about your interactions with your advisor or the climate in your research group, you are encouraged to discuss them with either the Chair of the Doctoral Committee (Prof. Hufnagel) or the Department Head (Prof. Kessler). If you would prefer to discuss your concerns with someone outside the department, please consult the Assistant Dean for Graduate and Postdoctoral Academic Affairs (Ms. Christine Kavanagh, christinekavanagh@jhu.edu).

Instructions for the advisor

Your advisee will complete Parts 1 and 2 and submit them to you. Complete your evaluation in Part 3, and meet with your advisee to discuss all three sections. This meeting must be documented in Part 4, which is signed by both of you. If necessary, you may revise Part 3 to reflect your discussion with your advisee.

The entire review must be completed annually for each PhD student, and submitted to the Academic Program Administrator no later than **August 1**.

Part 1 — Academic and scientific progress towards degree

Coursework (Fill in number and title of electives below)	Instructor	Semester/Year (enter "W" if waived)	Grade*
510.601 Structure of Materials			
510.602 Thermodynamics of Materials			
510.603 Kinetics and Phase Transformations			
510.615 Physical Properties of Materials			
Elective #1:			
Elective #2:			
Elective #3:			
360.624/625 Responsible Conduct of Research			

Teaching assistant requirement (two semesters)	Semester/Year	Completion form submitted?
Course number and instructor:		
Course number and instructor:		

Oral qualifying exam (before start of third year)	Semester/Year	Outcome

Thesis Advisory Committee (TAC) Review	Semester/Year TAC Held	Tentative Date of Next TAC meeting
Names of committee members:		
Feedback (include if thesis proposal was accepted if haven't previously accepted):		

*Core courses (601-603, 615) require B- or higher and overall GPA>3. Electives require a C or

Thesis defense/GBO	Date passed or planned
Names of committee members:	

*Core courses (601-603, 615) require B- or higher and overall GPA>3. Electives require a C or

Other academic work—Additional coursework beyond requirements, plus other workshops and training.

Progress towards M.S. degree—If you plan to obtain a M.S. while working towards your Ph.D., describe your progress here and give the expected (or actual) date of your degree.

External presentations—List authors (underline presenting author) and provide title, event or conference name, location, and date.

Refereed journal publications—If published, provide complete citation information and DOI. Otherwise, indicate status (submitted, in review, or accepted) and name of journal. Do not include manuscripts "in preparation".

Other research products and professional activity — such as conference papers, software, invention disclosures, patents, and outreach.

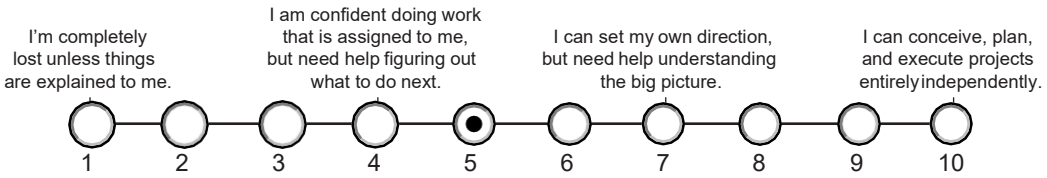
Part 2 — Student self-evaluation

Research accomplishments for the past year — List any significant accomplishments, clearly defining your contribution

Progress against last year's goals — List goals and progress made on each

Goals for the coming year with target dates (courses, exams, research objectives, papers)

Intellectual progress — Rate your intellectual ownership of your thesis project on the scale below.



Where do you want to be on this scale by next year? What can you and your advisor do to help you move up the scale?

Long-range career goal — What is your ideal job?

Skills — What skills are your strongest assets for that job? What skills do you need to cultivate to succeed at that job?

Professional network — How expansive is your professional network? What strategies can you use to expand it?

Department/professional citizenship — List service activities for your group, the department, or other professional organizations.

Extenuating circumstances (optional) — List any circumstances that limited your progress last year.

Part 3 — Advisor evaluation of student

Areas of strength — Give specific examples from coursework, research progress, and citizenship.

Areas for growth and development — Give specific examples and expectations for the coming year.

Suggestions for professional development — What should be done to make progress towards career goals?

Estimated graduation date:

Funding source for coming year:

Part 4 — Discussion and certification

☐ I certify that I have discussed Parts 1-3 of this *Doctoral Candidate Annual Review* with my advisor.

Date of meeting:

Type of meeting: ☐ In person ☐ Video conference ☒ Telephone/audio

Advisee name:

Advisee signature:

The next question is to be answered by the advisor.

☐ I certify that I have discussed Parts 1-3 of this *Doctoral Candidate Annual Review* with my advisee.

OR

☐ I certify that I have been unable to complete this *Doctoral Candidate Annual Review* with my advisee for the following reason:

Advisor name:

Advisor signature:

If you have concerns about your advisor or the climate of your research group, you are encouraged to consult the Assistant Dean for Graduate and Postdoctoral Academic Affairs. You may also contact the Johns Hopkins Ombuds Office for confidential, impartial, and informal guidance at ombuds@jhu.edu or (410) 218-6669.