



JOHNS HOPKINS
UNIVERSITY
Chemical and Biomolecular Engineering

**Graduate PhD Student Handbook
2019-2020**

(Updated Aug 2019)

Important Contacts

Department Head

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Graduate Academic Coordinator (GAC)

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Director of the PhD Program (DPP)

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Ph.D. Degree Program

1. Degree Requirements

The Ph.D. degree is awarded for original research performed under the guidance of a thesis advisor. In order to receive the PhD degree in our department you need to:

- Complete six graduate-level courses including the four required core courses with the appropriate grade.
- Complete the department's lab safety requirements.
- Complete the Responsible Conduct of Research training.
- Complete an annual research evaluation each year.
- Attend at least 75% of department seminars (540.600/601) during each enrolled semester.
- Serve as a teaching assistant for at least two approved courses in the department.
- Successfully pass the Graduate Board Oral Exam.
- Complete an original research project, documented in a dissertation that is defended by the candidate in a public presentation.
- Apply for Graduation submitted to Registrar's office.
- Successfully complete and submit an electronic thesis (ETD) to the Johns Hopkins Library

2. Coursework

Student must successfully complete six graduate-level courses including the four required core courses listed below,

540.630 Thermodynamics, Statistical Mechanics, and Kinetics
540.652 Advanced Transport Phenomena
540.602 Metabolic Systems Biotechnology
540.615 Interfacial Science with Applications to Nanoscale Systems

Each semester, students must also register for and complete the course EN. 540.600: Chemical and Biomolecular Engineering Seminar

In the first semester, students are also required to register for and complete EN500.601: Research Laboratory Safety.

Students are strongly encouraged to take the required courses in the first year, preferably in the first semester if all the courses are offered. Students who do not have an undergraduate degree in Chemical & Biomolecular Engineering, or a closely related field, may need additional coursework and should discuss an appropriate course plan with the DPP at the start of their first semester.

The remaining two graduate level engineering or science courses are chosen with the help of the student's advisor to design a curriculum appropriate for the student's research interest. These two courses cannot include seminars, independent study, graduate research or special studies.

If the two courses are taken in other schools (e.g. SOM, SPH), the courses should be Graduate level and letter graded. Such courses also should be approved by the thesis advisor as relevant to the PhD thesis research. If such courses are half-semester in length or taken in a school that has a quarter system, then two half semester (or quarter) courses of the same credit will count as one full semester course. Some elective courses in A&S are zero credit and they can be

counted provided they are semester-long and A&S regular graduate classes; when in doubt, check with the DPP.

The student must also take care to ensure that they are registering for enough credits each semester to maintain full-time status and note that if they decide to leave the PhD program and graduate with an MSE degree, then such courses may not count towards fulfillment of the MSE degree, and they would need to complete the MSE curriculum.

Each of the six courses must be passed with a letter grade of B- or higher. In addition, the student must maintain an overall grade point average (GPA) of 3.0 or better. If the student's GPA falls below 3.0, the student must re-take one or more of the courses and earn a higher grade. All grades remain on graduate students' transcripts, and courses which are retaken are noted with an R. If a student receives a grade of C+ or lower in a required core course, the student will be allowed to re-take the course once in order to achieve a grade of B- or higher. Failure to receive a B- or better the second time will be cause for dismissal from the program. 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.

2. 1. Double-Counting Courses

It is possible to double count graduate courses if you have received an MSE degree previously.

If a student has an MSE in ChemBE from JHU, then all graduate JHU courses taken as a master's student will double-count toward the PhD coursework requirement (though a student must remain an MSE student for at least one year prior to converting to PhD candidate status). If the student has taken MSE thermo or MSE transport, they may request to waive the PhD thermo or transport, provided they received a B+ in the specific course and have an average GPA in the MS of B+ or higher.

If a student has an MSE from another institution, they can waive only the core courses by submitting sufficient evidence of equivalency (syllabus) and competency (grade) to the DPP. The student will still need to take a minimum of three graduate courses, which can be electives. Additionally, elective courses cannot be waived.

3. Fellowships

Our students have a long history of success in earning external fellowships. Please visit the weblink to learn more about fellowships: <http://fellowships.jhu.edu/>

4. Research Advisor Selection Process

Some of our PhD students are admitted to specific PhD advisors, but others need to find and be assigned to a faculty research advisor. The selection and assignment process will take place during the first semester. All students, including students with assigned advisors must attend (mandatory attendance) research presentations of the members of the ChemBE faculty. This allows students to learn more about research opportunities within the faculty's group. Concurrently, students are required to meet individually with at least the three (preferably more) faculty members whom they intend to list as their top three choices. By the end of September, students will submit their top three choices for advisor (not research projects) to the DPP and Academic Program Coordinator. The top three choices must be primary faculty in ChemBE. The DPP and Department Head will then make assignments while taking into account the student's preferences, openings in faculty labs and input from individual faculty. The Department strives to honor students' top choices wherever possible, based on input from the faculty advisor, DPP and Head of the department. The official announcements will be made for most students before the second week of October. This timeline enables applications to make the deadlines

for competitive fellowships such as the NSF Graduate Fellowship.

Inevitably, at that time, some number of students may still not be matched. At this point, the DPP, in collaboration with the Head, will work with faculty and students to find advisors for the remaining unmatched students by encouraging students to meet with faculty outside of ChemBE.

Continued financial support (tuition, stipend and health insurance) is contingent upon a PhD student joining an advisor's lab in their first academic year. If a PhD student is unable to secure an advisor assignment by the conclusion of their second academic semester, they will be dismissed from the PhD program. A student may choose to apply to the course-based MSE program at that point and, if accepted, remain to finish the MSE degree at their own cost.

4. 1. Advisor eligibility

Students are expected to be assigned to faculty with primary appointments (core) in ChemBE and will be requested to provide their top three faculty choices only within ChemBE core faculty. Only, if they are unable to find an advisor amongst the core faculty in the department, they can request to be advised by a faculty member outside the department.

In this circumstance, students can work with:

Faculty who have formal affiliations (joint appointments and secondary appointments) with ChemBE. A list of these appointments is available on the department website.

Students who wish to work under the mentorship of an external and non-ChemBE affiliated faculty member must have an internal co-advisor from the ChemBE primary faculty approved by the DPP. The co-advisor must ensure that the research project is relevant to the chemical and biomolecular engineering field, and they must participate in all annual reviews and oral examinations. It is the co-advisor's responsibility to ensure that annual reviews have taken place between the primary advisor and the student. It is expected that the co-advisor will meet with the student at least once per semester. Unless there is a specific agreement otherwise, the student's financial support is the responsibility of the primary advisor, not the co-advisor.

4. 2. Advisor Reassignment

Students who are having difficulty in a lab to which they are assigned or in rare cases, students who are considering switching advisors must discuss the matter with the DPP as soon as possible. Students may also consider talking with their current research advisor and/or the WSE Assistant Dean for Graduate and Postdoctoral Academic Affairs, Christine Kavanagh to formulate a course of action.

Students who voluntarily leave a lab or students who are dismissed from a lab but not from the department have four weeks following this time point to identify a new research advisor who agrees to be their mentor and to support their stipend, tuition, and other expenses. Students who do not find a new advisor within this time normally are dismissed from the program. Students who leave a lab while under probation will continue to be under probation, and the terms of probation will be reassessed based on the new circumstances.

Students who are forced to leave a lab for circumstances beyond their control (e.g. an advisor leaves the university) should work with the DPP to plan a course of action for changing research groups. Students will generally be subject to the WSE policy to identify a new advisor within four months.

5. Graduate Student Academic Review

At the end of every semester, the department reviews the academic records of graduate students to evaluate their academic progress. The student should also inform the DPP promptly if their GPA is less than 3.0. If the overall grade point average (GPA) is less than 3.0, the student will be required to remediate the situation and may be placed on probation.

In addition to this evaluation, the department annually evaluates each student's research progress through a written evaluation that includes the student's self-evaluation, completion of the advisor and / or faculty committee's evaluation form and, additionally, an oral research presentation which is conducted in all years of study except for the second year. In the second year, a research proposal will be required. This process is designed to probe the student's critical thinking, dedication, and approach towards research and learning. This evaluation process is not a pass/fail exam, but rather is used to provide students with constructive feedback regarding their research progress including recommendations and goals for the coming year. More details of the reviews are below.

5. 1. Review by Oral Research Presentations

Oral presentations are conducted in all years of study except for the second year. In the second year, a research proposal will be required. Oral reviews should be scheduled in conjunction with their advisor and committee between May and July each year and completed by the end of July. Oral research presentations will be made to a committee consisting of the advisor and two other faculty members. The two additional members will both be ChemBE faculty in the first year, whereas one of them can be from another department in the third year and beyond. The date of the oral presentation should be chosen by mutual agreement between the advisor and the student. The presentations should last 30 minutes and include an additional 15 minutes for questions and completion of the evaluation form.

Students who are within six months of completing their degree may request exemption from the oral research presentation. The expected graduation date must be emailed from the student's advisor to the GAC. The student and advisor must still complete and submit the self-evaluation form.

5. 2. Review by Self-Evaluation and Faculty Evaluation Form

Students in all years of study must complete the review form which includes a section for self-assessment and a section to be completed by the advisor and committee members at the oral research presentation or review. Students should complete the self-evaluation portion of the form and provide it to their committee one week before the oral presentation (if applicable). Students should bring the completed self-evaluation form to their presentations where the faculty committee will complete a separate section on the back of the form at the conclusion of the research presentation. The student and faculty committee will sign and date the form. Copies of the form will be provided to the student and the advisor and a scanned copy must be sent to the GAC to be placed in the student's departmental file. In the second year, when students do not participate in the oral presentation process, the same form should be completed and signed by the student and advisor, and the DPP and Department Chair will also sign the form. This will occur following the research proposal evaluation.

6. TA Requirement and Policy

All Ph.D. students must serve as teaching assistants (TAs) for two semesters, preferably during the first three years of study. We do not recommend TA'ing in the first year of study and PI and DPP approval is needed for this. The three-year time frame may be extended if TA positions are not available. To fulfill this requirement, students must be a TA for required UG/MS or PhD courses only. Being a TA for an elective course does not count towards fulfillment of the graduate student TA requirements.

While the typical workload for a TA is often, on average, ten hours per week, a full-time TA can be expected to work 15 to 20 hours per week. During mid-term and/or final exam periods, in particular, TAs might need to spend up to twenty hours in one week. Duties may vary from course to course and may include grading.

The general expectations of the TA are:

a) the TA should be prepared to give a 60- to 90- minute recitation section every week. To this end, the TA should possess a complete mastery of the course's fundamentals. To achieve this, the TA is expected to spend around three hours per week to review course material. Although not required, the TA might find it helpful to attend the instructor's lectures for the course they are TA'ing.

b) The TA should offer office hours (typically a 1-hour window per week which must be different from the recitation section) to address students' queries pertinent to the course. Office hours should be chosen to accommodate all students attending the course, keeping in mind the schedule of other required courses.

- The TA may be asked to grade certain problems from a homework set or all problems from certain homework sets. However, the TA should not spend, on average, more than two hours per week on such a task. Most importantly, TAs are not required to prepare the homework sets which will be distributed to the class. However, they may be occasionally asked to "modify" or "contribute" a problem in the homework.
- The TA may be occasionally asked to give class lectures. In such cases, detailed notes should be provided to the TA by the instructor.
- The TA may be asked to help the instructor grade the mid-term and/or the final exams. In this case, the solutions along with clear grading instructions should be provided by the instructor. The instructor should closely supervise the TAs and address all of their queries during this exercise. The TAs are not required to devise the questions of the mid-term and/or final exams.
- The TA may be asked to assist with collecting data for the department's ABET report as required by the accrediting agency and the Whiting School of Engineering.

If the imposed workload is higher than that specified above, the students should report this to the DPP and the Department Head.

Note: Being a TA for the undergraduate senior lab course (540.311/313) entails different duties and a higher workload than that discussed above. As a result, being a TA for senior lab once is sufficient to fulfill the TA requirement (i.e. being a TA for a second course is not required if you TA senior lab). Students who elect to serve as a TA for senior lab for additional semesters receive extra pay commensurate with their duties and experience.

The process of securing TA positions is left up to the students and the instructor. Students interested in being a TA for a course should directly contact the instructor of that course. Occasionally courses that need TAs (if there are any) will be announced to graduate students about a month before the start of the semester.

If a student serves in additional TA assignments with the permission of their advisor, they will be eligible to receive extra pay.

The University has TA Orientation in August. Attendance at the TA training session is mandatory for all students who will be TAs for the first time in either the fall or spring semesters.

For PhD students who completed their MS degree in the department, any TA service performed as an MS student may count toward the PhD TA requirement and the student should contact the DPP for approval.

7. Steps for Graduation

Several steps need to be completed prior to graduation and these steps are outlined below.

7. 1. Notify the Academic Program Coordinator

Students must notify the Academic Program Coordinator one semester PRIOR to the semester of your intent to graduate, which should be decided after discussing with your PhD advisor. In addition, students should contact the Academic Program Coordinator at least **eight weeks** prior to the proposed defense date to ensure that all necessary information is exchanged. Allow **at least eight weeks** for scheduling and approval from the Graduate Board. The earlier that the student lets the Academic Program Coordinator know their plans, the better.

7. 2. Complete the "Application for Graduation" in SIS

Note: If no "Application for Graduation" is on file in the Registrar's Office, the student will not be included on the degree candidates list signed by the President. Should a student's degree requirement materials be received after the deadlines listed above that student's name will be added to the next semester's Graduate Board list for completed degrees.

7. 3. Contact the Johns Hopkins Office of International Studies if you are an international student and want to apply for an Optional Practical Training (OPT) for F-1 students. OPT applications must be created several months before completion.

7. 4. Complete the Graduate Board Oral Exam and Thesis Defense

Candidates must write a thesis (dissertation) conforming to university requirements that describes the students work and results in detail. A public defense of the thesis is required, and the defense will be followed by a closed session or graduate board oral (GBO) examination. Because the closed examination session fulfills the university Graduate Board Oral (GBO) examination requirement, all procedures pertaining to GBO's as established by the University Graduate Board must be followed. The procedures can be found at the Homewood Graduate and Post-doctoral affairs website

<http://homewoodgrad.jhu.edu/academics/graduate-board/graduate-board-oral-exams/>

7.4. 1. Graduate Board Oral Exam

The Graduate Board Oral (GBO) Exam is a university requirement for obtaining a Ph.D. The GBO Examination for candidates for the Ph.D. degree has three major objectives:

- a) To assess a candidate's proficiency in the discipline.
- b) To give a student the benefit of a critical examination of his or her work by scholars outside the department or program committee.
- c) To provide a means for extra-departmental monitoring of the academic quality of departments and committees sponsoring candidates.

The GBO should concentrate on the student's doctoral dissertation and its implications. It is reasonable for the Graduate Board Oral Examination Committee to explore the candidate's breadth of knowledge in areas ruled germane to the thesis by the chair of the committee.

7. 4. 2. Scheduling the GBO examination and thesis defense

In our department, the GBO exam and thesis defense are held at the same time. Students should contact the Academic Program Coordinator at least **eight weeks** prior to the proposed defense date to ensure that all necessary information is exchanged. Allow at least **eight weeks** for scheduling and approval from the Graduate Board.

Students are not permitted to schedule this GBO exam. The advisor must contact the Academic Program Coordinator directly to begin the process. Although consultation of doctoral candidates with their faculty advisors regarding possible exam committee members is appropriate, it is the

advisor's responsibility to suggest potential examination committee members to the Academic Program Coordinator and the DPP. The academic program coordinator will schedule the date and location after the names are approved by the DPP. The student may only contact committee members after everything is officially confirmed.

7. 4. 3. Composition of the committee for the GBO examination and thesis defense

Please refer to the weblink above regarding university committee rules. (<http://homewoodgrad.jhu.edu/academics/graduate-board/graduate-board-oral-exams/>)

In our department, the committee for the closed examination should consist of five faculty members, with at least two members being from outside the department. The committee consists of the three members of the student's thesis committee (the advisor and two readers – one reader from inside the department and one reader from outside the department) and two additional members. The outcome of the closed examination will be decided by majority vote of the committee.

7. 4. 4. Thesis preparation and defense

The Ph.D. thesis must be submitted to the readers of the thesis **two weeks** (or earlier, if requested by a reader) before the scheduled defense of the thesis. It will then be defended at an open seminar, whose date and location will be publicized within the department.

Refer to the *Guidelines for the Preparation of Dissertations and Theses*, which can be found online: <https://www.library.jhu.edu/library-services/electronic-theses-dissertations/>

7. 4. 5. Submission of the thesis to the library

After successful completion of the GBO and approval by the thesis readers, submit your electronic thesis (ETD) to the Johns Hopkins Library. Email the Academic Program Coordinator the confirmation of approval of electronic submission. This step is very important for completing all documentation before submission of all materials to the Graduate Board. Please note that the department does not pay the ETD submission fee, though individual advisors may choose to pay it from their discretionary accounts.

Each of the six courses must be passed with a letter grade of B- or higher. In addition, the student must maintain an overall grade point average (GPA) of 3.0 or better. If the student's GPA falls below 3.0, the student must re-take one or more of the courses and earn a higher grade. All grades remain on graduate students' transcripts, and courses which are retaken are noted with an R. If a student receives a grade of C+ or lower in a required core course, the student will be allowed to re-take the course once in order to achieve a grade of B- or higher. Failure to receive a B- or better the second time will be cause for dismissal from the program. 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.

ChemBE General PhD Information

ChemBE PhD Student Conflict Resolution

The Department of Chemical and Biomolecular Engineering tries to provide a supportive environment for its graduate students, but occasionally disagreements and problems occur, and students may need help in resolving an issue. The department recommends several options to help in finding resolution to such issues:

- The student could talk to their advisor.
- The student could attempt to resolve the conflict by having an in-person conversation with the involved parties. If the student is uncomfortable with this or needs assistance with these discussions, there are faculty members (in addition to the Departmental Head, Paulette Clancy) who are prepared to help and can be contacted for their assistance:
 - Director, Ph.D. Program (DPP) – David Gracias
 - Director, Graduate Admissions – Efi Kokkoli

Students can also reach out for assistance beyond the department- there are several offices on the campus that can assist in helping students resolve issues:

- Whiting School of Engineering Office of Academic Affairs
- GRO (Graduate Representatives Organization)
- JHU Counseling Center
- JHU Office of Institutional Equity
- Office of the Dean of Student Life
- Homewood Graduate Affairs and Admissions Office
- Office of Student Disability Services

If the situation is serious and cannot be reasonably resolved through any of these options, the Whiting School has a grievance policy, and we will stand with the student to help if a formal complaint is appropriate.

General laboratory Safety

The importance of laboratory safety cannot be overstated. All students are required to complete the safety course prior to beginning work in the lab. This course is offered in the fall and spring semester. Any concurrent BS/MSE students have already taken the undergraduate version of the course and are not required to take it. It should be noted that the laboratory safety course does not cover everything one needs to know regarding safety in each individual lab, but is intended to create a safety-minded experience through which the student will be able to evaluate their own lab for potential safety issues and work with their advisor to determine how he/she would respond in that situation. Students working with either biological, laser or radiation hazards, are required to take additional additional courses through the medical campus and WSE. Annual departmental and university laboratory inspections will be conducted by the departmental faculty safety officer and university safety officer, respectively. Random laboratory checks are also conducted.

Some relevant contact information people to contact for safety issues are:

1. ChemBE faculty safety officer: Chao Wang, 410-516-5843, cwang78@jhu.edu

2. Homewood laboratory safety advocate: Daniel Kuespert, 410-516-5525,
dkuespert@jhu.edu
<https://labsafety.jhu.edu/author/dkuespe1/>

3. Emergency resources
<https://labsafety.jhu.edu/emergency-resources/>

4. JHU University Health, Safety & Environment
https://www.hopkinsmedicine.org/hse/offices_and_programs.html
<https://www.hopkinsmedicine.org/hse/>
<https://www.hopkinsmedicine.org/hse/policies/index.html>

5. Relevant Security and Safety phone numbers

JHU Security
Emergency: (410) 516-7777 (24/7)
Non-emergency: (410) 516-4600 (24/7)

6. Other important numbers
Health, Safety, and Environment: (410) 516-8798 (business hours)
Maryland Poison Center: (800) 222-1222 (24/7)
JHU Radiation Safety: (410) 516-7278
JHU Biosafety: (410) 955-5918
JHMI Needlestick Hotline: (410) 955-STIX (5pm-8am)
Blue Jay Shuttle: (410) 516-5121 (24/7)
Plant Operations: (410) 516-8063
Occupational Health Services: (410) 516-0450
Student Health Services: (410) 516-8270

Link to Johns Hopkins Whiting School Graduate Policy Information
<https://engineering.jhu.edu/graduate-studies/>

Homewood Policies for Academic Policies and Procedures
The Academic Policies & Procedures for All Whiting School of Engineering Full time Graduate students is available online and can be accessed using the following link:\n<https://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate>

Registration
Students are required to register for every semester of study. Registration deadlines are published by the Registrar well in advance.
<https://studentaffairs.jhu.edu/registrar/>

It is the student's responsibility to check their account and make sure there are no holds in place to bar registration. For advisor holds, the student should speak to their advisor to plan their schedule and so that the advisor can release the hold. For financial holds, the student should contact the Department Administrator. If a student misses the registration

deadline, he or she will be responsible for a late fee of \$150-\$300.

Students must register over the summer in order to avoid paying extra FICA taxes. You can contact the GAC about the procedure and deadlines. Students who miss the deadline will incur a late fee of \$50.

Graduate Credit Hours

All courses through the Whiting School of Engineering carry credit hours. Graduate Research carries a flexible credit hour assignment, and students should meet with their advisor to discuss the appropriate number of credit hours in which to enroll for Graduate Research, based on effort and time in the lab. Typically, fulltime PhD students must register for 20 credit hours per semester. For more information about graduate credit hours, please read the Q&A on credits at,

<https://homewoodgrad.jhu.edu/academics/wse-graduate-%20%20credit-hours/>

Graduate Board

The Graduate Board is responsible for the administration of University-wide policies and procedures for the award of Master of Arts; M.A.; and Doctor of Philosophy, Ph.D.

OIS Office of International Services

The primary mission of the Office of International Services (OIS) is to assist international students, scholars, and faculty at Johns Hopkins University's Homewood Campus. OIS works with the academic and administrative departments to facilitate the immigration process. Additionally, OIS' staff members are available to answer your questions about immigration status, financial concerns, health matters, housing, employment possibilities, as well as other issues that may arise during your stay.

Please refer to the website: <http://ois.jhu.edu/>

Health Insurance

All graduate students are required to carry sufficient health insurance. The University offers a low-cost health insurance plan for and the Department covers 100% of the expense for all PhD students. Masters are offered a reduced cost of \$250.

Students who are already under a plan through their parents or employer have the option to waive the JHU plan by filling out a waiver form and turning it in to the Registrar's Office. This must be done every year. Students who plan to choose this option must also notify the Academic Program Coordinator and Department Administrator. A copy of the waiver form must be turned in to the Department office and kept on file.

Department Information

Current information on the department is available on our Department website at:

<https://engineering.jhu.edu/chembe/>

The web link for our core faculty is:

<https://engineering.jhu.edu/chembe/faculty/>

The link for joint / secondary appointed faculty is:

<https://engineering.jhu.edu/chembe/people/joint-appointments/>

Department Staff: Our department staff is listed on our department website:

<https://engineering.jhu.edu/chembe/people/staff/>

Students may contact the following Department staff for assistance:

Graduate Academic Coordinator – registration problems, missing grades, access to documents in your application file, assistance understanding departmental and university policies, help with university paperwork, letters for leaving the country, financial hold, advisor holds, GSLC and graduate affairs.

Senior Research Analyst – budgets, policies, payroll questions, tuition/health insurance, expense accounts reimbursement, petty cash voucher, questions about lab budgets, turning in receipts, procurement card or purchasing questions, assistance with SAP

Administrative Secretary– reserve space for lab meetings, key requests, mailboxes, deliveries, assistance with copier

Department Office and mailing address:

Department of Chemical and Biomolecular Engineering
Maryland Hall 221, Johns Hopkins University
3400 N. Charles Street Baltimore, Maryland 21218, USA

Mail and Supplies Policies

Laboratories are responsible for procuring their own supplies and managing their own shipping accounts (FedEx). Each lab should have a person designated to oversee such purchases and track budget spending.

The door to the mailroom will be locked after normal business hours; graduate students may request a key to that room, a laboratory, or workspace by filling out a Key Request Form located in 221. Keys may only be given to those students who have either completed the Safety Course or watched the equivalent DVD and passed the safety test administered by the Administrative Secretary on a weekly basis. A multi-function photocopier is also available for student use in 224C for tasks related to the conduct of research or the academic pursuits of the faculty. This printer will only Scan and Send to @jhu.edu e-mail addresses.

Graduate Student Liaison Committee (GSLC)

The Graduate Student Liaison Committee represents the graduate student body in the

Department. The group is a voice for all graduate students and works to create a cohesive work and social environment in Chemical and Biomolecular Engineering. The committee also organizes social and athletic events that bring together faculty, graduate students, and undergraduates on a regular basis. See the GSLC Facebook page for updates:
<http://www.facebook.com/groups/344261771592>

Other Useful Contacts

Office of the Registrar

<https://studentaffairs.jhu.edu/registrar/>

75 Garland Hall

JCard Services (JHU student ID)

<http://www.idcs.jhu.edu>

/ 51 Garland Hall

Student Financial Services

<http://www.jhu.edu/finaid>

146 Garland Hall

Student Accounts

<http://www.jhu.edu/studacct>

31 Garland Hall

Office of Student Disability Services

<http://web.jhu.edu/disabilities>

385 Garland Hall

Office of Institutional Equity

<http://oie.jhu.edu>

Wyman Park Building Suite 515

Ralph O'Connor Recreation Center

<http://web.jhu.edu/recreation/>

Community Living (Housing)

<https://studentaffairs.jhu.edu/community-living/>

JHU Information Technology

<http://www.it.johnshopkins.edu>

JHU Career Center

<https://studentaffairs.jhu.edu/life-design>

Graduate Representative Organization (GRO)

<https://studentaffairs.jhu.edu/gro/>

JHU Sheridan Libraries

<https://www.library.jhu.edu/>

Homewood Student Affairs

<https://studentaffairs.jhu.edu>

Digital Media Center

<https://studentaffairs.jhu.edu/dmc/>

Campus Security

<http://www.jhu.edu/~security/>

Campus Police: 4105167777

Security office: 4105164600

Safety Escort Services

Phone: 4105164600

JHU Transportation services (including parking)

<http://ts.jhu.edu>

Barnes & Noble Bookstore

<http://johns-hopkins.bncollege.com>

JHU Charles Commons

Office of International Services

(visas etc)

<https://ois.jhu.edu>

6. Plans/Goals (including research and courses) for the coming year:

7. Confirm that you understand, and are committed to employing safe procedures for handling chemicals and experiments in your project, including the daily use of PPE.

8. Number of leave days in the past year:

9. Additional comments or concerns

Please attach your (a) current CV and your (b) working thesis title and abstract to this review.

Additional Form to be completed and signed by both student and advisors. The student and advisor need to each respond to the statements below using the following scale:

1= disagree, 2 = improvement needed, 3= agree. A written explanation is needed for all "1s".

Lab Work	Student	Advisor
The student is adept at designing well-controlled experiments that clearly address the questions at hand.		
The student conducts lab work following all safety regulations.		
The student positively engages with other lab members, respects the boundaries of lab mates' projects, and is willing to teach and		
The student participates in helping to maintain and improve the lab as a whole (e.g. lab duties).		

Research Project	Student	Advisor
The student sets achievable goals by prioritizing experiments and maximizing effective use of resources.		
The student understands big picture implications as well as finer details of their project.		
The student is able to focus, effectively manage stress, and meet deadlines.		
The student is fully committed to progress in their project (effort, attitude, motivation).		
There are adequate resources for the student to conduct the planned research		

Communication	Student	Advisor
The student can design and organize an effective scientific presentation.		
The student incorporates appropriate suggestions/information from progress reports, committee meetings and/or reviewers into their		
The student successfully networks with others inside and outside of their chosen field.		

Scientific and Career Development	Student	Advisor
The student reads the scientific literature, both within and outside of		
The student has taken advantage of course opportunities to advance		

The student has made progress toward deciding what their future career goals are and is gaining the experience needed to achieve them.		
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Advisor/Student Relationship	Student	Advisor
There are adequate opportunities for meetings between the student and advisor.		
The student receives adequate mentorship from their advisor.		
The advisor provides positive feedback and incentive to encourage the student		
The advisor responds in a timely manner to the student's emails and requests to read manuscripts, thesis drafts, and other important documents		

OVERALL PROGRESS (tick one): ____ 5 (exceeds expectations); ____ 4; ____ 3 (satisfactory); ____ 2; ____ 1 (unsatisfactory)

ADVISOR: Comments on student self-assessment & research presentation and/or recommendations/goals for the coming year can be attached on a separate sheet of paper if necessary.

Advisor's signature _____ Date _____

Faculty signature #1 _____ Faculty signature #2 _____

I have read the comments and discussed this document with my advisor

Student's signature _____ Date _____

**Checklist for Departmental Approval Ph.D. Degree Program in
Chemical and Biomolecular Engineering**

Name: _____ JHU ID: _____

Faculty Advisor: _____

Graduation Date: _____

Degree Requirements:

The Ph.D. degree is awarded for original research performed under the guidance of a thesis advisor. A checklist is below.

- Completed of six graduate-level courses including the four required core courses listed below.
- Completed an annual research evaluation each year.
- Served as a teaching assistant for at least two required courses.
- Completed in the first semester of 500.601
- Attended graduate seminars (540.600/601) every semester. Students are expected to enroll and attend department seminars throughout their tenure in the department.
- Successfully completed of the Graduate Board Oral Exam.
- Completed an original research project, documented in a dissertation that is defended by the candidate in a public presentation.
- Completed of Responsible Conduct of Research training. For complete information, see eng.jhu.edu/wse/page/conduct-of-research-training.
- Completed and submitted an application for Graduation to the Registrar's office.
- Successfully completed of electronic thesis (ETD) to the Johns Hopkins Library <https://www.library.jhu.edu/library-services/electronic-theses-dissertations/>

Required Core Courses:

- 540.630 Thermodynamics, Statistical Mechanics, and Kinetics
- 540.652 Advanced Transport Phenomena
- 540.602 Metabolic Systems Biotechnology
- 540.615 Interfacial Science with Applications to Nanoscale Systems
- EN500.601 Research Laboratory Safety.

This is to certify that **STUDENT NAME** has satisfied all of the academic requirements necessary to grant a Ph.D. degree as required by the Department of Chemical & Biomolecular Engineering.

Advisor's Signature