



JOHNS HOPKINS
U N I V E R S I T Y

Mechanical
Engineering
Department

Graduate Student Advising Manual

2009-2010

Updated September 25, 2009

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1. Introduction

Welcome to the Department of Mechanical Engineering! This manual is designed to serve as a guide for graduate students in the Department of Mechanical 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, rules, and procedures, and offers some suggestions regarding our program. Please address issues and questions not covered by this manual to your faculty advisor, Senior Academic Program Coordinator Mike Bernard, Administrator Debbi Donhauser, or the Department Chair Kevin Hemker. Please note that this document is not phrased to the professional legal standards and that you will want to clarify any unclear issues with the department.

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. Degree Program

The full-time Master of Science in Engineering (M.S.E.) and the Doctor of Philosophy (Ph.D.) degree requirements will be described here.

2.1. M.S.E. Degree

The M.S.E. degree may be a final degree or it may be obtained *en route* to the Ph.D. Either way, the requirements remain the same, and the advisor's approval is always required. Students who complete the M.S.E. degree are not automatically admitted to the Ph.D. program.

The requirements for an M.S.E. in Mechanical Engineering are as follows:

1. Satisfactory completion of eight one-semester advanced courses approved by your advisor, as follows:
 - a) No more than two courses may be chosen from the Part-Time Programs.
 - b) No more than four courses may be at the intermediate/advanced undergraduate (xxx.300 – xxx.499) level.

- c) At least two courses should be in applied mathematics, numerical analysis, or computational methods. (This requirement can be waived in writing by your advisor, if sufficient prior preparation in these areas can be demonstrated).
- d) These courses *cannot* include Independent Study, Graduate Research, M.S.E. Graduate Student Research, or Special Studies.

Note: A course is satisfactorily completed if a grade of A, B, C, or P is obtained. No more than one C grade can be counted toward the requirements and a D or F or second C grade will result in the student being placed on probation. A second D or F or a third C grade results in termination from the program.

2. Plus *either*...

- a) Two additional one-semester graduate courses (xxx.600–xxx.799) approved by your advisor, (for M.S.E. students only: one of these two courses can be 530.600 MSE Graduate Student Research), *or*...
- b) An M.S.E. Thesis acceptable to your advisor and one other reader. According to the Graduate Board's Procedures for Administration of Approved Policies for the Award of Advanced Degrees, "Thesis readers are selected and appointed by the chair or appropriate faculty of the sponsoring department or committee. Any duly appointed member of a department or committee holding the rank of assistant professor or higher (excluding lecturers) is eligible for selection as a referee without prior approval. The Graduate Board Office must approve readers from outside the University, or from any non-Ph.D. sponsoring department, laboratory or institute within the University." Additional information is available at <http://www.graduateboard.jhu.edu/procedures.htm>.

2.1.1. Application for Graduation

Students who have completed the requirements for the M.S.E. degree should obtain the Application for Advanced Degrees and the Application for Graduation forms from the Department's Academic Program Coordinator, Mike Bernard.

The Whiting School of Engineering states that every student must earn the master's degree within five consecutive academic years (10 semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the ten semester limit; otherwise, all semesters from the beginning of the student's graduate studies – whether the student is resident or not – count toward the ten semester limit.

2.1.2. Double-Counting Courses

The Mechanical Engineering department double-counts courses using the policy set by the Whiting School of Engineering:

Coursework applied to a bachelor's degree:

Students either in a WSE concurrent (bachelor's/master's) program or seeking a WSE master's degree after having earned a WSE or Krieger School of Arts and Sciences bachelor's degree may double-count two courses (400-level or higher) to both programs with the permission of the master's faculty advisor. WSE master's degree candidates may not double-count courses applied to a bachelor's degree earned at a different institution. Individual graduate programs reserve the right to enforce stricter policies.

Coursework not applied to a bachelor's degree:

For students who are either in a WSE concurrent bachelor's/master's degree program or have already earned a Whiting School of Engineering or Krieger School of Arts and Sciences bachelor's degree and are seeking a WSE master's degree, any graduate-level coursework (as defined by the WSE graduate program) not applied to the undergraduate degree may be applied to the graduate degree, regardless of when that course was taken (i.e., before or after the undergraduate degree has been conferred) with the permission of the master's faculty advisor.

Information is available at <http://engineering.jhu.edu/graduate-double-counting>.

2.2. Ph.D. Degree

The Ph.D. degree certifies that the holder has demonstrated the ability to conduct independent research and develop new knowledge. The requirements for a Ph.D. in Mechanical 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 faculty of the Mechanical Engineering Department.

In addition to the University requirements described above, students must:

- a) Pass the Departmental Qualifying Examination before the start of their 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 Mechanical Engineering courses.

- c) Earn an appropriate grade for all classes taken. Two “C” course grades are normally sufficient cause for termination from the doctoral program.

**Ph.D. Students must register each semester for
530.801 (Fall) and 530.802 (Spring) Graduate Research.**

2.3. Departmental Qualifying Examination

The completion of a doctoral degree at a major research university requires a high level of academic sophistication in the candidate’s field, as well as the ability to apply this advanced background in the creation of new knowledge. The Departmental Qualifying Examination is an approximately one-hour oral examination in which students are tested in their principal research areas: fluid mechanics, mechanics and materials, biomechanics, or robotics, and also in applied mathematics.

The examination is given in late January or by special arrangement with the Graduate Program Committee Chair, who in 2009 is Professor Andrea Prosperetti.

2.3.1. Fluid Mechanics and Heat Transfer

Students are presumed to be prepared for the Departmental Qualifying Examination on completion of courses 530.621 and 530.622 Fluid Dynamics I & II, and 530.632 Convection of Heat and Mass, as well as possessing an undergraduate-level knowledge of thermodynamics, heat and mass transfer, fluid mechanics and the application of fundamental concepts to technological problems.

In mathematics, students are required to have taken, or have the knowledge equivalent to 570.661 Applied Mathematics for Engineering and 530.762 Advanced Mathematical Methods for Engineers.

2.3.2. Mechanics and Materials

Students in this area typically follow either a mechanics-intensive track or a materials-intensive track.

Mechanics-intensive Track: Students are presumed to be prepared on completion of courses 530.601 Continuum Mechanics, 530.602 Mechanics of Solids, and appropriate undergraduate courses in statics, dynamics, mechanics of materials, and vibrations. Depending on their research focus, students will also be examined on 530.730 Finite Element Analysis, 530.612 Computational Solid Mechanics, or 510.604 Mechanical Properties of Materials.

In mathematics, students are required to have taken, or have the knowledge equivalent to 570.661 Applied Mathematics for Engineering and 530.762 Advanced Mathematical Methods for Engineers.

Materials-intensive Track: Students are presumed to be prepared on completion of courses 530.602 Mechanics of Solids, 510.601 Structure of Materials, 510.604 Mechanical Properties of Materials, 510.602 Thermodynamics and Kinetics of Materials, and appropriate undergraduate courses in statics, materials selection, and mechanics of materials.

In mathematics, students are presumed to be prepared on completion of 570.661 Applied Mathematics for Engineering and 530.762 Advanced Mathematical Methods for Engineers or equivalent.

2.3.3. Robotics

Students are presumed to be prepared on completion of 530.646 Introduction to Robotics, and at least three of the following eight courses as approved by the candidate's advisor:

- 530.420 Robot Sensors and Actuators
- 530.421 Mechatronics
- 530.424 Dynamics of Robots and Spacecraft
- 530.645 Kinematics
- 530.647 Adaptive Systems
- 530.651 Haptics for Teleoperation and Virtual Reality
- 530.676 Sensor-Based Locomotion and Manipulation
- 600.435 Artificial Intelligence
- 600.461 Computer Vision
- 520.614 Linear System Theory I
- 520.615 Linear Control Theory

Students should have proficiency in calculus, linear algebra, differential equations, linear systems, physics, statics, dynamical systems, vibrations, and strength of materials as appropriate for the conduct of their research.

In mathematics, students are required to use ordinary differential equations, linear algebra, and multidimensional calculus, as well as to perform frequency domain analysis. It is assumed that incoming students have knowledge equivalent to that in courses such as 500.303 and 500.304 Applied Mathematics I and II. The following two math courses or alternatives approved by their advisor should be taken:

- 570.661 Applied Mathematics for Engineering
- 530.659 Computational Methods of Engineering Mathematics

Each candidate should select a course of study consistent with their research and approved by their advisor.

2.3.4. Biomechanics

Ph.D. candidates in the biomechanics concentration are expected to take the departmental qualifying exam (DQE) after three semesters of graduate study. The candidate should demonstrate good knowledge in the areas of engineering

mathematics, numerical/computational methods, mechanics and biological sciences. To fulfill these requirements, the candidate must successfully complete at least six courses (at least two from the mathematics/numerical methods area and at least four from mechanics/biosciences area), or show knowledge equivalent to these courses:

1) *Engineering Mathematics*

550.291 Linear Algebra and Differential Equations
550.391 Systems Theory
550.426 Stochastic Processes
570.661 Applied Math for Engineering
530.762 Advanced Mathematical Methods for Engineers

2) *Numerical and Computational Methods*

530.612 Computational Solid Mechanics
530.639 Scientific Computing
530.730 Finite Elements
530.766 Numerical Methods

3) *Mechanics*

530.601 Continuum Mechanics
530.602 Mechanics of Solids
530.621/530.622 Fluid Mechanics I and II
530.640 Statistical Mechanics
530.645 Kinematics
530.672 BioMEMS and Biosensing
530.757 Nanomechanics
530.771 Orientational Phenomena

4) *Biological Science*

020.306 Cell Biology
020.380 Molecular Biology
530.410 Biomechanics of the Cell and Organisms
580.687/580.688 Foundations of Computational Biology and Bioinformatics

This is not an exhaustive list. Other courses offered at the Homewood Campus, the Medical School, and the School of Public Health may be approved by your advisor.

NOTE: Some of these courses have prerequisites or require the permission of the instructor to take the course. Please consult the University's *Undergraduate and Graduate Programs* course catalog for further information.

2.4. Graduate Board Oral Examination

The Graduate Board Oral (GBO) examination is the University-wide “quality-control” check on our program. For all departments, the GBO exam has the following basic structure:

The two-hour examination is conducted by five faculty members: two Mechanical Engineering professors and three from outside the Department. The examination is chaired by the most senior of these outside members, usually a Professor. One departmental alternate and one outside alternate are also required. The Chair of the examination has the right to set the scope of the examination.

The Mechanical Engineering Department frequently adheres to the following:

- a) Students normally take the GBO examination about a year after completion of their Departmental Oral Examination, usually during or after their sixth semester.
- b) Students are considered prepared for the GBO when they have completed approximately six graduate level (xxx.600-xxx.799) courses in their major area and six advanced (xxx.300-xxx.799) courses in one or two related fields, or the equivalent.
- c) The members of the GBO examining committee are nominated by the student's advisor and approved by the Chair of Mechanical Engineering.
- d) While it is usual for students to provide examiners with a brief synopsis of their research project two weeks before the examination, they are not usually asked to make a presentation on their research. The examination most frequently begins with questions from members of the department on any subject of their choosing.

Students take this examination very seriously and use it as an opportunity to synthesize the knowledge gained in the different courses they have taken. Each examination is different, but students are required to display significant depth in the areas related to their research and to demonstrate the ability to think and apply their advanced knowledge. Fundamental concepts, from sophomore-level mechanics to rigorous expressions of physical phenomena are all within the scope of the exam. General scaling laws, dimensional analysis, and basic physical principles (for example, conservation laws) are tools on which students may be asked to draw.

Candidates may be required to give formal definitions for concepts and terms germane to their research and to give numerical values of physical parameters with which they work. The usefulness and potential application of a student's research or field of study may also be examined.

Students preparing to take the GBO must contact Sr. Academic Program Coordinator Mike Bernard to make the necessary arrangements for the exam *at least eight weeks* prior to the intended exam date. This will allow the time needed to confirm the availability of the proposed examiners and notify the Graduate Board by their notification deadlines.

2.5. Dissertation Defense

All Ph.D. candidates are required to submit and defend a dissertation. Students preparing their dissertation should first obtain a copy of the JHU Graduate Board's *Guidelines for the Preparation of Dissertations and Theses* from Academic Program Coordinator Mike Bernard. Students may also obtain an online version at <http://library.jhu.edu/services/cbo/guidelines.html>.

Students should schedule their defense with Mike Bernard and make any other arrangements needed for the successful completion of their program. All international students must visit the International Office 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.

2.6. Academic Deadlines

Students preparing to complete a degree program in a given semester should see Mike Bernard to ensure that all necessary forms and requirements have been completed and submitted *prior* to the academic deadlines for the semester. The deadlines to submit all certification material are usually:

- Fall: late-October
- Winter: mid- to late-January
- Spring: early-April (Ph.D), early-May (M.S.E.)
- Summer: late-August

Students who have not completed their requirements by the first day of classes must register for the current semester. Those who complete their requirements prior to the October deadline will receive a full tuition refund for the fall semester, including any non-resident status fees. Tuition paid from departmental funds or research grants will also be refunded.

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. Diplomas are awarded once a year, at the May Commencement. Additional information is available at <http://www.graduateboard.jhu.edu/deadlines.htm>.

2.7. Departmental Seminars

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

SEMINAR REGISTRATION REQUIRED EVERY SEMESTER!

Graduate students are required to register for and attend the 530.803 (Fall) and 530.804 (Spring) Mechanical Engineering Departmental Seminars, which occurs every Thursday at 3:00p.m.

Students must attend a minimum of eight seminars of the official Mechanical Engineering series, plus four other seminars, for a total of 12 per semester.

There are also a number of special seminars in the department and regular seminars in other departments that may be of interest, such as Materials Science and Engineering, Earth and Planetary Sciences, and Biomedical Engineering; and Centers, such as CEA FM, CAMCS, and CISST. These seminars are beneficial, as it is common for GBO examiners to include questions addressed in such seminars.

2.8. Informal Student Seminars

In preparation for their thesis defense, students are required to present their work at informal seminars within the Department. Your advisor will explain the scope and expectations of your role as spectator and presenter in these presentations.

2.8.1. Solids Seminars and Robotics Seminars

The Mechanics and Solid Materials Student Seminar Series group meets Fridays at 12:00 noon. The Robotics group meets regularly at the discretion of the group.

2.8.2. Fluids Seminars - Course Registration Required

The Fluids group holds student presentations on Fridays. All Fluids graduate students must register for this seminar using course numbers 530.807 in the Fall semester and 530.808 in the Spring semester.

As information is received, schedules will be sent to you in advance. Students are expected to attend these seminars, which provide an informal opportunity to learn about the ongoing research work of their colleagues.

2.9. Professional Communication Program

Classes are offered during the Fall semester for graduate students through the Professional Communication Program in the Whiting School of Engineering.

- 661.150 ORAL PRESENTATIONS is designed to teach students how to give effective oral presentations.
- 661.610 RESEARCH WRITING is designed for students working on dissertations, theses, or a scientific/research publication. This class also contains an oral presentations component.

Additional courses will be offered in the Spring semester. Kristen Kelley of the Whiting School of Engineering's Center for Leadership Education can answer questions at kkelley@jhu.edu or 410-516-6745.

2.10. Masters in Mechanical Engineering

Information regarding the part-time Masters in Mechanical Engineering (M.M.E.) degree is available at Engineering for Professionals (EP) program of the Whiting School. You may contact the EP at 410-540-2960, ep@jhu.edu, or <http://www.epp.jhu.edu>.

2.11. Master of Science in Engineering Management

The Whiting School of Engineering offers a Master of Science degree in Engineering Management (MSEM). This program bridges the gap between technology and business by equipping students with the technical expertise and leadership skills they need to advance their career in the fast-paced world of technology.

Program Requirements

Just ten courses are required to complete this advanced degree:

- Five advanced courses to fulfill the management concentration, including one capstone course that integrates and applies knowledge gained throughout the program.
- Five advanced courses in a declared technical area of engineering or applied science.

Technical Specializations

There are twelve available technical areas of specialization:

- Biomaterials
- Communications Science
- Computer Science
- Fluid Mechanics
- Materials Science and Engineering
- Mechanical Engineering

- Mechanics and Materials
- Nano-Biotechnology
- Nanomaterials and Nanotechnology
- Probability and Statistics
- Smart Product and Device Design
- Environmental Systems Analysis, Economics & Public Policy

Consult the MSEM website at <http://engineering.jhu.edu/msem/index.html> for additional course and application information.

2.12. 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.

Please consider the following, which had previously been published on the Whiting School of Engineering Academic Affairs website at http://engineering.jhu.edu/academicaffairs/ug_student_ethics/: "An ethical campus fosters a positive sense of community and trust, while unethical actions and attitudes breed suspicion, cynicism, and negativity. Johns Hopkins University strives to be a community in which honesty and respect are valued and upheld, and in which all members of the community uphold the highest degree of ethical conduct.

"Academic ethics is the responsibility of every student, faculty member, and staff person at Johns Hopkins University. You must take the time to learn about what is ethical and what is not - ignorance of ethical rules is not an excuse for cheating. If you see a violation take place, it is your responsibility to report it.

"Every class you take at Hopkins should address ethics, and some activities that are allowed in one class may not be allowed in another class. If you are not sure if an action is ethical for a particular class, e.g. working in a group on homework read the syllabus carefully and ask your professor."

Examples of Academic Misconduct:

- Cheating
- Plagiarism
- Reusing Assignments
- Improper Use of the Internet
- Improper Use of Electronic Devices
- Unauthorized Collaboration
- Alteration of Graded Assignments
- Forgery and Falsification
- Lying
- Facilitating Academic Dishonesty
- Unfair Competition

Information about academic policies of the Whiting School of Engineering can be found at <http://engineering.jhu.edu/graduate-policies/>. Please take time to read these policies.

3. Financial Aid

There are four sources of financial aid available to Mechanical Engineering students. First, Dean's fellowships to eligible students cover 80% of a Ph.D. student's tuition. The second is provided by Teaching Assistant hourly positions. Next are Research Assistantships for students working on funded research projects. The fourth is through Departmental fellowships.

Note that for M.S.E. students, financial aid is less common, though limited opportunities for partial tuition fellowships and salaried positions may become available from time to time.

3.1. Tuition Fellowships

At the Dean's discretion, tuition fellowships may be awarded to full-time students who are supported by the Department through either faculty research projects or fellowships. Ph.D. candidates may be eligible for 80% tuition fellowships.

3.2. Teaching Assistant - Hourly Positions

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. TAs are remunerated for their efforts according to a formula that quantifies the number of hours required for a particular course, multiplied by an hourly rate, to be determined by the beginning of the academic year.

Ph.D. students are required to act as a Teaching Assistant for two Mechanical Engineering courses.

3.3. Research Assistantships

Students working directly on funded research projects are paid by the faculty member's projects conducting that research. Typically, Research Assistants are paid

a salary of \$1,020.83 semi-monthly at an annual full-time rate of \$24,500. This rate may vary depending on the grant or funding agency.

Continuation of a Research Assistantship is determined by a student's performance and the availability of research funding. This support allows students to progress towards completion of their degrees, but also requires the completion of specific research accomplishments.

There are a few basic rules regarding the holding of a Research Assistantship.

- a) At least once weekly meetings with the student and faculty advisor are the norm, but vary from advisor to advisor.
- b) Both the Intersession in January and the summer, June through August are particularly important periods for research progress. Students are expected to make significant effort during these periods.
- c) Students on 12-month Research Assistantship salaries should discuss any planned absences with their advisors.

3.4. Fellowships

Mechanical Engineering offers the Departmental Fellowship, provided to an outstanding first-year student to allow the opportunity to find an appropriate advisor and embark on research. The current fellowship award includes full tuition remission, health insurance, matriculation fee, and a stipend of \$1,020.83 semi-monthly at an annual full-time rate of \$24,500.

In some years, the Wolman Fellowship, named in honor of the distinguished environmental engineer Abel Wolman, is awarded to an exceptional first-year student to allow the opportunity to find an appropriate advisor and embark on a research project. It is not available in the 2009-10 academic year.

3.5. 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 at <http://www.jhu.edu/finaid/grads.html>.

3.6. Student Employment

The Student Employment Services office offers opportunities for employment for many positions on the campus. They will help you determine your work eligibility. Should you wish to obtain additional employment, please speak with your advisor so you will be able to fulfill the obligations of your education and research. The

Student Employment Services office is located in the basement of Garland Hall, and their website is located at <http://www.jhu.edu/~stujob/>.

4. Administration

4.1. Department Offices

The Department Administrative Office is located in Latrobe 223. Administrator Debbi Donhauser and staff: Senior Budget Analysts Lorrie Dodd and Margie Gier, Senior Academic Program Coordinator Mike Bernard, Administrative Coordinators Katy Sanderson and Deana Santoni, and Accounting Specialist Megan Gorhan are available to assist you. 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.

The Administrative Coordinators provide valuable help to the faculty and the Department Chair. Deana Santoni is the Assistant to the Chair and Katy Sanderson assists the remaining faculty.

Although the staff does not provide secretarial services to students, they are always willing to answer questions and to provide suggestions on how such tasks might be best accomplished.

The Senior Academic Program Coordinator manages the graduate application process, the administration of the graduate and undergraduate programs, and a host of other academic related duties.

4.2. Supplies and Services

Most of the services you will need will be provided through the Department Office. Chief among them:

PHOTOCOPIER: Graduate students are welcome to use the department photocopy machine for tasks related to the conduct of research or the academic pursuits of the faculty. An access code will be assigned to each student and informal training of use of the copier and its features is available. In unusual circumstances, the copier may be used on a limited basis for personal needs on a cost-per-copy basis. Please see Administrator Debbi Donhauser to discuss any needs.

FAX MACHINE: The number for the fax machine in Latrobe 223-A is 410-516-4316. Since many people rely on this machine, incoming faxes must be labeled or have a fax cover sheet. Students may use the outgoing fax for communication related to the conduct of research or the academic pursuits of the faculty.

This is how to dial a fax number for the following types of numbers:

- Local Number in the Baltimore area, with area codes 410 and 443:
Dial 9, the area code and telephone number; e.g. 9-410-555-3818.

- Long Distance numbers in Maryland (area codes 240, 301, some 410 and 443 numbers), other United States, Canada, and Caribbean locations using a three-digit Area Code: *Dial 9, 1, the area code and telephone number; e.g. 9-1-717-555-8203.*
- Elsewhere: *Dial 9, 011, the country code and telephone number; e.g. 9-011-39-555241156.*

STUDENT MAILBOXES: All graduate students have a mailbox located in the administrative office in Latrobe 223. Mail is ordinarily picked up and distributed daily. It is important that you check your mailboxes regularly. Do not break open mail bundles and sort through mail. Please wait until the mail is placed in your box. The administrative staff will help with questions regarding pickup, delivery, postage, and Express Mail services.

SHIPPING AND RECEIVING: Federal Express 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. 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 personal items. If there are questions, concerns, or special needs regarding shipping of your packages, please contact Megan Gorhan at 410-516-7132 or mgorhan1@jhu.edu or Katy Sanderson at 410-516-6782 or ksanderson@jhu.edu.

PRINTER PAPER: Paper is available from the department office for the printers in your laboratories. Please see an office staff member in Latrobe 223 to obtain paper. You will be asked to sign a tracking sheet. You may also order a case of paper from our Accounting Specialist.

OFFICE EQUIPMENT: Paper cutters, staplers, telephone books, and other items are available for general use. **These items must be kept in the Department Office.**

OFFICE SUPPLIES: As a convenience, generic office supplies are made available to students. These supplies are limited and **must be requested** from the Department Office. When you see that the supply of an item is running out or running low, please inform Katy Sanderson so she may replenish that item.

KITCHEN, including COFFEE and TEA SERVICE: A refrigerator and microwave oven are available to store and heat your meals. Please help keep the kitchen area clean. Coffee, tea, and hot chocolate are available at 50 cents per cup on the honor system. You may also pay \$10.00 per month for a one-cup-a-day supply.

5. Purchasing and Travel Reimbursements

5.1. 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 account number to use for any 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.

5.2. Ordering Equipment, Supplies, and Services

Orders for the purchase and acquisition of supplies, equipment and materials must be arranged through the department’s Accounting Specialist Megan Gorhan or Administrative Coordinator Katy Sanderson. 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 5.2.1 and 5.2.2).

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.

5.2.1. 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.

5.2.2. Tag Numbers

The JHU Office of Cost Analysis is responsible for identifying, recording, and tagging equipment.

EQUIPMENT OVER \$5,000: Whenever possible, equipment items costing \$5,000 or more are tagged with a University property tag, using a tag which 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.

5.2.3. 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.

5.2.4. Supply Items

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

5.2.5. 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.

5.3. 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 other reason, 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 Return Merchandise Authorization (RMA) Number clearly on the package next to the mailing label.
- Bring the package to the Department Office and notify either Accounting Specialist Megan Gorhan by e-mail at mgorhan1@jhu.edu or Katy Sanderson at ksanderson@jhu.edu that the package is a return. Be sure to provide an account number to apply shipping charges.

5.4. Credit Card or Cash Purchases

Purchasing equipment or materials with a personal credit card or with cash is strongly discouraged. 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, with no exceptions.** Copies of the tax-exempt sales certificate are available in the Department Office.

5.5. Reimbursements

The Department office processes reimbursements for official travel and out-of-pocket expenses for the purchase of materials and supplies.

Reimbursements may be obtained in one of two ways:

- Up to \$100.00: from the Petty Cash Office in Garland Hall using a Petty Cash Voucher.
- Over \$100.00: Check requested from and paid through the Accounts Payable Office. Please allow up to three weeks for the reimbursement to be processed.

5.6. Travel

5.6.1. 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. World Travel Service's website is www.worldtravelservice.com. E-mail the WTS at jhuttravel@worldtravelservice.com.

5.6.2. Travel Expense Reimbursements

Reimbursement for travel expenses must be submitted with a completed and signed Travel Expense Report and will be processed and forwarded to the Accounts Payable Office. Allow two to three weeks for the reimbursement to be processed. Travel Expense Report forms can be obtained from Katy Sanderson.

It is your responsibility to complete the form and attach the necessary *original* receipts, obtain a signature approval, and account number from the PI. In 2009, business mileage is reimbursed at 55 cents per mile.

5.6.3. 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.

5.6.4. 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 Accounting Specialist Megan Gorhan or Administrative Coordinator Katy Sanderson before arranging air travel.

5.6.5. 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 this expense.

6. Payroll

Paychecks are 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 or direct deposit notifications will be placed in your mailbox. For your convenience, Direct Deposit to your bank account is available; please see Mike Bernard or the Student Employment Office for direct deposit forms and additional information.

Many of our graduate students are paid a salary; a few are paid a stipend. Please make sure you understand whether you receive a *salary* or a *stipend*. The difference may have important tax ramifications, particularly for international students. International students may contact the Office of International Student and Scholar Services at 410-516-1013, or the Tax Office at 443-997-8442 for assistance.

6.1. Salaries

The department determines the salaries for Research Assistants. Other financial assistance, criteria of the grant or contract on which you are performing research may cause your salary to vary from those of your colleagues. Research Assistants are paid from the research funds of their particular advisor.

Salaries are subject to Federal and State tax withholding, which is done automatically through the Payroll Office and will be reflected on the pay stub. American students will want to complete a W-4 Federal Tax withholding form and a MW-507 Maryland State withholding form and return them to the Student Employment Services office in the basement of Garland Hall.

Blank forms are available from the Department office and on the Controller's Office website at http://www.controller.jhu.edu/depts/tax/tax_forms.html. If you do not submit these forms, Payroll will tax you at the higher default rate.

6.2. Stipends

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

***NOTE: Stipends have no income or other tax withheld.
Students on fellowships are responsible to file and pay taxes.***

Students receiving stipends should file quarterly withholding reports with the Internal Revenue Service. For information contact the Tax Office at <http://www.controller.jhu.edu/depts/tax/index.html>, 443-997-8442, or tax@jhu.edu.

7. Laboratory Safety

Lab Safety is the responsibility of all who use, maintain, or visit the labs within the ME department. Those persons assigned to work within the labs are responsible for familiarizing themselves with the appropriate directives and instructions, prior to engaging in any work. The Johns Hopkins Health, Safety & Environment Department maintains a website to ensure updated information on policies, issues, and concerns are available to all.

Visit <http://www.hopkinsmedicine.org/hse/> to view directives concerning Safety Responsibilities and Policies, Environmental Monitoring, Fire Safety, Chemical Safety, Laboratory Safety, and Radiation Safety.

For each lab, a Principal Investigator (PI) is assigned. That person is responsible for the safe operation of the lab, the training of the persons on the equipment within the lab, and is a ready source to answer any questions on a specific lab with regards to its operation and all safety aspects. The PI's for each lab are listed on the entrance door to each lab. The Departmental Safety Officer can also be contacted at 410-516-6752 for assistance.

7.1. Machine Shop - Latrobe 3

There is a Machine Shop available in Latrobe Hall, located in Latrobe Hall, Room 3. An informal orientation regarding shop safety, shop rules, and equipment operations is available.

This orientation is required to be allowed to work in the Machine Shop. Please contact Laboratory Administrator Mike Johnson at rjohns94@jhu.edu or 410-516-6752 to arrange your orientation.

7.2. Computer Labs

7.2.1. Services/Equipment

Located in Latrobe 113 are ten Dell/Pentium desktop computers. The machines are available for use seven days a week, 24 hours a day to any person with access to the space and login information. In order to gain access, a key to Latrobe 113 must be signed out from the Administrative office in Latrobe 223. To gain access to the computers, each user must be assigned login information to the server. This process normally takes less than a day for the server information to be updated. Contact Mike Johnson at 410-516-6752 or rjohns94@jhu.edu for access.

7.2.2. Technical Information

The computers are primarily for use in conjunction with the Senior Design class, and as such, are oriented in software towards that goal. PRO-E, ANSYS, and FEMLAB are but a few of the programs available on the computers. Other software is available for installation on an as needed basis.

7.2.3. Procedures for Reserving Time/Space

The computers are available on a first come, first served basis, however, priority is given to those students involved with Senior Design. As long as a computer is available, anyone with access may use them. Once all computers are in use, then those not involved in Senior Design will be asked to make room for those who are. Conflicts will be resolved by the lab administrator.

7.2.4. Safety Procedures

There are no special safety procedures involved with computer use. All those using the computers are asked to keep the lab administrator informed of any problems that arise. Users are expected to clean up their area before leaving.

7.2.5. Contact Information

- Keys: Katy Sanderson, Latrobe 223, 410-516-6782
- Computer Access: Mike Johnson, Latrobe 113, 410-516-6752

7.3. Laser Engraving and Cutting System

7.3.1. Services and Equipment

Located in Krieger Hall room K-16, the Universal Laser Systems model X2-660 Laser engraving and cutting system is available for use by all persons assigned within the

ME department who have been properly trained in its operation. The laser cutter and engraver can be used with a variety of materials to include:

Acrylic – cast and extruded	Marble
Acrylic – mirrored	Matte Board
Aluminum – anodized	Melamine
Brass – painted	
Cork	Plastic – microsurfaced
Corian/Avonite/Fountainhead	Rubber Stamps
Delrin	Vinyl – sign (3mil)
Glass/Crystal	Wood/wood inlay
Leather	

7.3.2. Technical Information

The CO2 class 1 laser with Red Diode Pointer (class IIIa) is contained with a 32"x18" work area. The Windows 2000/XP operating system on the computer driver makes the system user friendly. The system is air assisted and the air assist must be applied as described in the orientation class in order for the system to operate properly. A point of use filter with acrylic window is available to check the system for traces of water prior to laser operation. MSE cards are available for materials used with the system. A log is kept to indicate usage of the laser system. A small fee is charged to the appropriate PI budget code for each use of the system.

7.3.3. Procedures for Reservations

An orientation class of about three hours in duration is required before access is granted to the machine. Training is done on a scheduled basis on a need basis. Schedule training through the lab administrator at 410-516-6752. Once training is complete, the equipment is available on a seven-day / 24-hour first come – first serve basis. Conflicts in scheduling will be resolved by the lab administrator. Each user is responsible for signing in on the log with an appropriate budget code, cleaning up the area after use, reporting any problems immediately to the lab administrator, and for safely operating the equipment. Failure in any of these areas will result in the loss of the privilege of using the equipment.

7.3.4. Contact Information

- Lab Administrator Mike Johnson, 410-516-6752 or rjohns@jhu.edu.
- Computer Lab Technician Bob Blakely, 410-516-8660 or bob@poseidon.me.jhu.edu.

8. 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 disks or systems in case something happens to computer via virus, equipment problems, or theft. The University provides free anti-virus software that can be downloaded from the website at <http://it.jhu.edu/alerts/>.
- Secure your laptop cases or any other bag that might be mistaken for a computer bag.
- Lock your car and don't 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, don't confront the individual, contact Security at 410-516-7777 right away. Your personal safety is most important.
- If you are uncomfortable walking 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.

9. Facilities

9.1. Graduate Student Offices

As space provides, full-time graduate students are provided with a desk in a group office at which they can work. In consultation with the faculty, the Department Administrator assigns the rooms. *Please note that the department does not furnish computers or other desk supplies.*

Information about office assignments can be obtained from Mike Bernard. Katy Sanderson issues keys. A \$5 deposit is assessed for each key issued. This deposit will be returned to you when you return the keys.

9.2. Libraries

The Milton S. Eisenhower Library makes available to the ME department a number of carrels, or desks with lockers each year. The assignment of carrels is made in August or

September, and graduate students interested in obtaining a carrel should notify the Academic Program Coordinator.

The Library also purchases books and journals based on departmental requests. Student requests for books and journals should be discussed with their advisor who may communicate the request to the faculty member designated as the Library Liaison, currently Professor Andrea Prosperetti, who is located at Latrobe 119, and can be contacted at prosperetti@jhu.edu, or 410-516-8534.

9.3. Computer Facilities

There are a cornucopia of computing facilities and services available to the Johns Hopkins community. The Information Technology website at <http://www.it.jhu.edu> 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.

9.3.1. Information Technology

The Information Technology Department at Johns Hopkins, whose web site is located at <http://www.it.jhu.edu> is the online resource for all 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.

9.3.2. Academic Computer Lab - Krieger Hall

The Academic Computer lab, which offers a wide variety of Mac and Windows operating systems, as well as all kinds of software, including Matlab, Mathematica, Microsoft Office, Adobe products and more are available in 160 Krieger Hall. The lab is often open 24 hours a day. Further information is available at <http://www.jhu.edu/KriegerLab/>.

9.3.3. Computer - Blocked Hosts

If the University believes or determines that a computer on its network is infected with a worm or virus, IT (Information Technology Services at <http://it.jhu.edu>) will block the IP address of that computer until the worm or virus is removed. In the meantime the user's computer will be temporarily blocked from Internet access. Unfortunately, IT does not notify the computer's administrator that it is affected by this block.

If your computer suddenly has no Internet access, you may want to check if your computer has been blocked. Go to the site at <http://www.it.jhu.edu/infosec/>, click on “Blocked List” in the menu on the right side, and log in with your JHED ID. Look for your computer’s unique IP address, follow the instructions to clear the virus or worm from your system and then notify IT, which will restore access.

9.3.4. Unique Internet Protocol Addresses

The Enterprise Network Architecture & Design Group (ENAD) is a division within Information Technology at Johns Hopkins that provides network engineering, planning, and support services to the Johns Hopkins Medical and University Institutions for local, wide area, and metropolitan networks.

The ENAD Group is also responsible for commodity Internet and Internet2 connectivity, Residential Networking, Video Support and Coordination, Management of Metropolitan Area Networks, Project Management, Address management, Network Monitoring, DHCP, and the operation of dial-up modem pools.

ENAD is responsible for providing unique Internet Protocol (IP) addresses to eligible John Hopkins affiliates, and will assist you in obtaining an address for your laptop or desktop to allow Internet access through the Hopkins systems. To obtain a unique IP address for your computer, complete the application on the website <http://it.jhu.edu/networking/iprequests.html>.

10. 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 see their website at <http://web.jhu.edu/disabilities/index.html>, or contact them at 410-516-4720 or studentdisabilityservices@jhu.edu. You may also visit their office in 385 Garland Hall.

11. Groups and Activities

11.1. Mechanical Engineering Graduate Student Association (MEGA)

MEGA is a social and advocacy organization for the graduate students of Mechanical Engineering. As a graduate student, you will be invited to various events throughout the year. For additional information, contact grad student Jessica Meulbroek at jessica.muelbroek@jhu.edu or go to <http://www.me.jhu.edu/mega.html>.

11.2. Women of Whiting

This organization serves to foster a sense of community and an environment of support among the graduate student women in the Whiting School. Monthly activities include luncheons with local female faculty and researchers and relaxed social events. Please contact grad student Netta Gurari at gurari@jhu.edu for information.

11.3. 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 University's Graduate Representative Organization. The GRO, whose website is <http://www.jhu.edu/gro>, is an advocacy group for all graduate students. The GRO serves the student body as a liaison to the University'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, which will be presented at GRO meetings.

11.4. American Society of Mechanical Engineers (ASME)

Please see the ASME Faculty Advisor, Professor Andrea Prosperetti for information and application materials. Professor Prosperetti is available in Latrobe 229, at lsu@jhu.edu, or 410-516-8637. Information about ASME can be found at <http://www.asme.org/>.

11.5. American Institute of Aeronautics and Astronautics (AIAA)

The Baltimore section of AIAA has recently formed a branch on campus. Information is available at <http://www.aiaa.org>. For information, contact Dr. Xiaofeng Liu at xliu2001@jhu.edu.

11.6. Extracurricular Activities

As a department, Mechanical Engineering participates in University intramural athletics. Mechanical Engineering has and will continue to field strong teams in softball, and periodically participates in basketball, volleyball, and other sports.

Periodically, students, staff, and faculty will host social events off-campus. You will be notified of these events as the department hears of them. If you want to host a social event, notify Mike Bernard, who will announce it to the Mechanical Engineering community.

Many groups and organizations throughout the University provide ample opportunities for social times and fun. Check out these websites for information:

- ❑ Things to Do - http://webapps.jhu.edu/jhuniverse/jhu_life/things_to_do/
- ❑ Arts and Culture - http://webapps.jhu.edu/jhuniverse/Arts_&_Culture/
- ❑ Baltimore Area Convention and Visitors Association - <http://www.baltimore.org/>
- ❑ Baltimore Office of Promotion - <http://www.bop.org/>

12. 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.

13. Faculty and Staff

13.1. Faculty

Name	Telephone	E-mail	Office
Professor Shiyi Chen	410-516-7754	syc@jhu.edu	124 Latrobe
Professor Greg Chirikjian	410-516-7127	gregc@jhu.edu	116 CSEB
Assistant Professor Noah Cowan	410-516-5301	ncowan@jhu.edu	126 CSEB
Professor and Chair Kevin Hemker	410-516-6451	hemker@jhu.edu	223 Latrobe
Professor Cila Herman	410-516-4467	cherman@jhu.edu	102 Latrobe
Professor Joe Katz	410-516-5470	katz@jhu.edu	219 Latrobe
Professor Omar Knio	410-516-7736	knio@jhu.edu	103 Latrobe
Professor Charles Meneveau	410-516-7802	meneveau@jhu.edu	127 Latrobe
Professor Rajat Mittal	410-516-4069	mittal@jhu.edu	126 Latrobe
Assistant Professor Vicky Nguyen	410-516-4538	vicky.nguyen@jhu.edu	125 Latrobe
Professor Allison Okamura	410-516-7266	aokamura@jhu.edu	125 CSEB
Professor Andrea Prosperetti	410-516-8534	prosperetti@jhu.edu	119 Latrobe
Professor K. T. Ramesh	410-516-7735	ramesh@jhu.edu	122 Latrobe
Professor William Sharpe (Retired)	410-516-6756	sharpe@jhu.edu	154 Wyman
Assistant Professor Lester Su	410-516-8537	lsu@jhu.edu	229 Latrobe
Associate Professor Sean Sun	410-516-4003	ssun@jhu.edu	105 Latrobe
Associate Professor Jeff Wang	410-516-7086	thwang@jhu.edu	108 Latrobe
Professor Louis Whitcomb	410-516-6724	llw@jhu.edu	115 CSEB

13.2. Administrative Staff

Name	Telephone	E-mail	Office
Mike Bernard, Senior Academic Program Coordinator	410-516-7154	mike.bernard@jhu.edu	223-G Latrobe
Bob Blakely, Mechanical Computing Technician	410-516-8660	bob@poseidon.me.jhu.edu	B-2 Krieger
Lorrie Dodd, Senior Budget Analyst	410-516-4175	ldodd@jhu.edu	223-F Latrobe
Margie Gier, Senior Budget Analyst	410-516-3834	mgier1@jhu.edu	223-F Latrobe
Megan Gorhan, Accounting Specialist	410-516-7132	mgorhan1@jhu.edu	223-G Latrobe
Mike Johnson, Laboratory Administrator	410-516-8660	rjohns94@jhu.edu	113 Latrobe
Rich Middlestadt, Machinist	410-516-7710	rmiddle4@jhu.edu	3 Latrobe
Laurel Murphy, Editorial Coordinator, JFE	410-516-7286	laurel.murphy@jhu.edu	123 Latrobe
Katy Sanderson, Administrative Coordinator	410-516-6782	ksanderson@jhu.edu	223-D Latrobe
Deana Santoni-Long, Administrative Coordinator	410-516-6451	dsantoni@jhu.edu	223-B Latrobe
Libby Starnes, Administrative Assistant	410-516-7257	lstarnes@jhu.edu	122 Latrobe
Debbi Stroback, Administrator	410-516-8542	debbi@jhu.edu	223-E Latrobe
Kelly Ware, Publications Assistant	410-516-0463	kware1@jhu.edu	128 Latrobe