Welcome to the Department of Energy, Environmental & Chemical Engineering

In 2006, Washington University became the first university in the world to create a Department of Energy, Environmental & Chemical Engineering (EECE) by bringing together faculty involved in the interdisciplinary Environment Engineering Science graduate program and the Department of Chemical Engineering.

The department focuses on research and education in environmental engineering science, energy systems and chemical engineering. The department provides integrated and multidisciplinary programs of scientific education.

The Department of Energy, Environmental & Chemical Engineering provides integrated and multidisciplinary programs of scientific education in cutting-edge areas. Degrees granted by the Department include: BS in Chemical Engineering; BS in Applied Sciences in Chemical Engineering; Master of Engineering in Energy, Environmental & Chemical Engineering; and PhD in Energy, Environmental & Chemical Engineering.
Research

Research and educational activities of the Department are organized into four cluster areas:

- Aerosol Science & Engineering
- Engineered Aquatic Processes
- Multi-scale Engineering
- Metabolic Engineering & Systems Biology

These overlapping cluster areas address education and research in four thematic areas:

- Energy
- Environmental Engineering Science
- Advanced Materials
- Global Outreach

In addition to core faculty in the Department, collaboration with the School of Medicine (Infectious Diseases, Ophthalmology, Pulmonary Biology, Genetics, others), Arts & Sciences (Biology, Chemistry, Physics, Economics), Business, Law and Social Work allow us to provide a holistic education and address topical problems of interest. The Department is a key participant in the university’s Energy and Environmental Initiative (ees.wustl.edu) and supports I-CARES (i-cares.wustl.edu) and MAGEEP (mageep.wustl.edu).

Through a global network of 29 universities, the McDonnell Academy Global Energy and Environmental Partnership (MAGEEP) collectively identifies and works to solve important global energy and environmental challenges in an integrated and holistic manner.

Major externally funded research centers include the Consortium for Clean Coal Utilization (cleancoal.wustl.edu), the National Nanotechnology Infrastructure Node (NNIN: nano.wustl.edu), the Photosynthetic Antenna Research Center (PARC: parc.wustl.edu), a USDOE Energy Frontier Research Center and the India-USA Solar Energy Center (SERIUS: sees.wustl.edu), Solar Energy & Energy Storage (SEES) Integration of Solar Energy with battery systems. Battery Management Systems evaluates the performance of battery systems over multiple scales to ensure long life and safety.

There are partnerships with corporations that fund research, provide internships and support. These include: MEMC Inc., IL&FS India Inc., Hyundai, Corning, Eastman, Shell, SABIC, Peabody Energy, Ameren, Arch Coal, Aerosol Control Technologies, Extend, Cabot Corp., Applied Materials and others.

Facilities

The Department is housed in Brauer Hall and Green Hall. In addition to state of the art research laboratories, there are major centralized facilities in the Department:

- Advanced Coal and Energy Research Facility (a 1 MW Pilot Oxy-Coal facility)
- Jens Molecular and Nanoscale Analysis Laboratory (measurement and characterization equipment)
- Nano Research Facility (user facility for nanomaterials synthesis and characterization)
- Ultra Fast Spectroscopy Laboratory (PARC user facility to map out electron lifetimes in various systems)
- Aerosol Instrument Facility (real-time size distribution and chemical composition measurement instrumentation)

Recent major research awards:

- $3 million from ARPA-E for Battery Management Systems from ARPA-E for Battery Management Systems
- $2 million from the U.S. Department of Energy to design a battery management system for lithium-ion batteries that will guarantee their longevity, safety and performance
- $1.3 million to develop innovative ways to burn coal for energy ($856,000 from the U.S. Department of Energy and $500,000 from the State of Wyoming’s Advanced Conversion Technology Program)
- $20 million from the Department of Energy for an Energy Frontier Research Center
- $12 million from Peabody Energy, Arch Coal and Ameren to support the Consortium for Clean Coal Utilization, including support for an innovative Advanced Coal and Energy Research Facility
- $3.5 million from the National Science Foundation’s National Nanotechnology Infrastructure Network, which supports a world-class Nano Research Facility
- $3 million from ARPA-E for Battery Management Systems

[Image: ccu.wustl.edu mageep.wustl.edu nano.wustl.edu parc.wustl.edu nrf seriius.org SEEES]
A key objective of the doctoral program is to promote cutting-edge multidisciplinary research and education in the thematic areas of Energy, Environmental & Chemical Engineering. The doctoral student works in conjunction with his or her advisor in designing a program of study and research.

Students are admitted to the program by a competitive process, and they typically start in the fall semester. The student is normally supported in the first year by the School through the allocation made to the Department and in following years by the faculty advisor through research grants or other external fellowships. All students will be expected to serve as a teaching assistant (TA) in the second or third year of residency in the Department while they are working with their mentor on research.

Temporary advisors will be assigned when the graduate students are admitted. On arriving at WUSTL, the student will be advised by the temporary advisor on all procedural issues. The student will choose a permanent advisor in December of the first year of residency in the program.

The following is a brief summary of the requirements for doctoral students:

1. Base competency in core subject areas demonstrated by passing the qualifying examination in first year of residency in the program
2. Research rotations in first semester of study prior to choosing a permanent advisor
3. Demonstrated teaching experience as per graduate school teaching requirement
4. Minimum of 18 credits for coursework and minimum of 30 credits for doctoral research; total of 72 credits required for the PhD degree
5. Defend a proposal within 18 months of passing the qualifying examination
6. Defend PhD dissertation by making an open oral seminar

There are three categories of registration:

Active: Normally, students register in this category for a minimum of nine credits each semester until they have earned the total number of credit hours required for their degree. Near the end of the student’s program, or after 72 credits are on the student’s record, he or she can register for less than nine credits but must enroll in EECE 884.

Inactive: Students who have not completed their course requirements but who, because of personal reasons, must suspend their studies temporarily, may register as inactive students with the approval of their advisor and the Department Chair. The School of Engineering & Applied Science sets the registration fee for inactive status.

Special: Students who have earned the required number of credit hours and who have only to complete the writing of a dissertation may register as special students (register for EECE 884, as per details above). This status is not appropriate for students who are still actively engaged in the performance of research.

Students who fail to register in one of the previously mentioned categories will automatically have their graduate standing revoked. Students whose graduate standing has been revoked will be required to repeat the qualifying examination. The format of each report is specified in the following:

Up to 10 pages of single-space, Times New Roman pt. 12 font, one-inch margins, with the references separate (not included in the 10-page limit).

Report Sections*:

- Summary (max. 250 words)  half-page
- Motivation, Objectives & Significance  1 page
- Brief background  1-2 pages
- Work accomplished (methods, results and discussion) 3-5 pages
- Conclusions and recommendations for future work  1 page

* If a paper is being prepared or submitted, it may be attached in addition to the report.

Helpful website — Graduate School of Arts & Sciences: graduateschool.wustl.edu
Qualifying Examination

The EECE PhD qualifying examination is to be taken in May of the first year of study in the program. It is administered by the EECE Graduate Committee and department faculty as appointed by the Chair. Details of the examination and other requirements are provided:

1) Students should take the core EECE classes (currently as follows for fall 2013 entrants):
   a) Transport Phenomena in EECE (EECE 591, fall)
   b) Mathematical Methods in Energy, Environmental & Chemical Engineering (EECE 502, fall)
   c) Students should take elective classes in at least two cluster areas
   d) Do two independent research rotations in their first semester (EECE 508)
   e) The seminar (EECE 500) is required for all semesters of residency in the PhD program.
   f) Students should obtain a cumulative GPA of 3.25 to appear for the written examination. [Com. GPA >= 3.25]

2) Two written tests selected from a menu of four: aerosols, aquatics, metabolic engineering or multi-scale engineering.

The students are expected to be familiar with content covered in the following anchor courses of each cluster, respectively:

a) Aerosol Science & Engineering (CHE 518, Aerosol Science and Technology, fall)
   b) Aquatics (EECE 543, Aquatic Chemistry, fall)
   c) Metabolic & Systems Biology (EECE 553, Bioprocess Engineering I, spring)
   d) Multi-scale Engineering (EECE 501, Transport Phenomena, fall; EECE 502, Mathematical Methods, fall; and EECE 503, Kinetics and Reaction Engineering Principles, spring)

Each cluster-specific test question will be prepared and graded by at least two faculty members. The questions will be comprehensive and in-depth evaluation of the students’ skill sets in the proposed area. Scores for each group will be normalized by the PhD committee to ensure grading is uniform across the clusters.

The student should choose the two areas based on the research cluster that he or she would be interested in working with in the aerosols cluster, he or she should answer test 2), and choose one other area for breadth).

3) Do two independent research rotations (not with the same faculty). The faculty mentor will assign a Pass or Fail. A Pass from two different faculty members is needed to Pass the qualifying examination. This will be based on reports submitted to the faculty mentors at the end of the respective research rotation.

4) For an oral examination, questioning will not rehash the performance in written exams — but instead evaluate for independent thinking and communication skills. The student should start the session with a five-minute (verbal with two slides) presentation of his or her research interests. Following this, the oral examination committee will ask questions to judge the capabilities of the student.

The final outcome of the EECE PhD qualifying examination will be determined by the EECE faculty based on the recommendation of the EECE Graduate Committee. The student can receive a Pass/Conditional Pass/Fail grade for the examination.

If the student failed the EECE PhD qualifying examination, he or she will be awarded an MS degree by the end of August (first year) based on the coursework and research to be conducted in the summer. Failed students may be given one additional chance to appear based on a formal petition approved by the faculty.

It should be noted that the student will receive no financial support from the Department in the interim period (until the EECE PhD qualifying exam is passed).

Selection of Permanent Advisor

After completing the second rotation in December of the first year, students will submit their top four choices for an advisor on the Permanent Advisor Choice Form to the Department Administrative Assistant for the graduate program. At the same time, each faculty member will notify the Graduate Study Director of (a) the number of students that he or she wishes to advise and can support beginning in September 2014 and (b) his or her ranked preferences of students to advise. Shortly, the faculty will make the permanent advisor assignments. Students will begin research with their permanent advisor in December.

Requirements for PhD Degree

Academic Requirements

Candidates for this degree must complete a total of 72 credits beyond the bachelor’s degree. Of these, a minimum of 36 must be graduate coursework and a minimum of 30 must be doctoral thesis research units. To be admitted to candidacy, students must have completed at least 18 credits at WUSTL, have an overall GPA greater than 3.0, and pass the qualifying examination. The student must also have completed the research rotations and have selected a permanent advisor.

Transfer Credits: At most, nine graduate credits in a master’s program from another university may be counted as transfer credits toward the required 36 units of coursework.

Maximum Research Units per Semester: At most, nine units of research units may be taken in a semester.

Seminar Credits: The one-unit EECE seminar course may be taken for graduate coursework credit in up to six semesters for a total of 6 units.

Independent Study Credits: At most, three units of coursework may be taken as graduate independent study. An independent study must be entirely separate from work done as part of the graduate thesis research. The student should prepare a proposal of study to be completed, and this plan must be described in the Independent Study Petition Form approved by the independent study instructor, student’s advisor, Graduate Program Coordinator and Department Chair for the independent study credits to count toward the 36 required units of coursework.

400-level Courses: Courses must be 500-level graduate courses, except for up to three 400-level courses, provided that they are approved by the Graduate Program Coordinator and Department Chair.

Thesis Proposal

Thesis Proposal (must be completed within 18 months after qualifying exam)

Following successful completion of the qualifying examination, students will select a research area and a permanent mentor/advisor (see page 6). The student and advisor will decide on a suitable problem whereupon the student will prepare a comprehensive written research proposal that includes a thorough survey of the field, a discussion of those areas needing further research, and a tentative but clear definition of the proposed research. Results of preliminary studies or feasibility studies should be included. The format and guidelines of the PhD thesis proposal are included in the last portion of this section.

This proposal will be submitted to the Thesis Committee at least one week prior to a Thesis Proposal Examination consisting of an oral presentation and questions before the committee. The committee normally consists of six tenured or tenure-track faculty members (including the advisor); four faculty members should be from the student’s major department and two from other departments or schools of the university. The committee is appointed by the Dean of the Graduate School upon the request of the Department Chair or Graduate Program Coordinator.

Any exceptions to the normal composition of the committee should be discussed with the Graduate Program Coordinator and be approved by the Dean of the Graduate School. The thesis proposal should be successfully presented within 18 months of passing the Qualifying Examination and at least 12 months prior to graduation.

The student must meet with the thesis committee (either as a group or individually) annually to update the members on research progress.

A student who has passed the Thesis Proposal Examination, completed 30 units of required coursework toward the PhD degree and published or submitted at least one peer-reviewed manuscript from the thesis research is eligible to receive an MS degree. The publication and submission of the manuscript must be with the approval of the research advisor. Students must submit their request to receive the MS degree at least one year before the thesis defense.
Requirements for PhD Degree continued

The following guidelines are recommended for the PhD Thesis Proposal:

1) The main body of the proposal should include
   - Executive summary (no more than one page)
   - Introduction (no more than five pages)
   - Research objectives (no more than two pages)
   - Preliminary work (no more than five pages in the body of the proposal; additional preliminary data or papers can be included in the Appendices)
   - Research plan (no more than 15 pages)
   - Timeline (no more than one page)
   - References (as needed)

2) The following Appendices should be included at the end of the proposal:
   - List of courses taken and to be taken with grades
   - TA experience
   - A short CV of the student highlighting conference presentations and journal papers (published/submitted) to be submitted
   - Copies of papers (optional)

3) Font: Times New Roman
   - Font size: no less than 11 points
   - Line spacing: single-spaced

Page margin: one-inch margin around the pages

PhD Students are referred to the National Science Foundation (NSF) Guidelines for Proposal Writing Document as a reference.

Teaching Assistant Requirement

All students must serve as a teaching assistant or assist in some teaching activity in the Department for at least two semesters prior to graduation; in some cases, a student may be required to serve as a teaching assistant in more than two semesters. The Department has in place a fair process to assign students as teaching assistants. This will normally be done after the first year and after having passed the Qualifying Examination. In serving as a teaching assistant, students should meet the Graduate School-wide Teaching Requirement for PhD Candidates; details of fulfilling teaching requirements are described in the Teaching Requirement Form with Policy Statement on graduateschool.wustl.edu.

The TA duties may include, but are not limited to: giving an actual lecture in an undergraduate class with the instructor in attendance; introducing/interpreting laboratory exercises, or conducting formal help sessions before exams. TAs will also be expected to hold one-on-one office hours and participate in grading homework assignments and exams. Both the students and the instructor will evaluate each TA’s performance, and the Graduate Studies Committee will use these evaluations to determine whether the teaching requirement has been fulfilled for that semester. All the PhD candidates are also required to attend one of TA-training workshops offered by Teaching Center for the formal pedagogical training prior to or during their first semester as TEs in EECE.

PhD candidates shall also accumulate teaching experience at the advanced level. Presenting one’s research in formal settings to other graduate students and faculty is the best way to fulfill the requirement at this level. Therefore, all PhD candidates shall give two to four formal presentations at the departmental- or university-wide level, and give at least one oral presentation at a national or international conference organized by a professional society (this last requirement may be waived upon approval of the Graduate Studies Committee).

During the semester, doctoral students will perform teaching assistant duties in addition to the normal coursework and research duties that are expected by the research advisor.

Thesis Defense

Upon completion of the thesis, candidates must present the thesis in a public forum and successfully defend the thesis before their Thesis Committee. Students should submit their completed thesis to the Committee at least two weeks prior to the defense. The student should also have submitted at least one paper to a peer-reviewed journal prior to defending his or her thesis. Normally, students are expected to have at least one paper accepted in a peer-reviewed journal, and at least another paper submitted prior to graduation. Presentation at national conferences is also encouraged. At least five committee members must be present at the defense (including the chair), and no more than one of those five should be present virtually rather than physically.

Financial Assistance

All full-time doctoral students in good standing will receive financial assistance – in the first year as a departmental fellowship, and in subsequent years through a research assistantship from the advisor or through independent fellowships. Students are expected to discuss their financial aid needs before finalizing their choice of an advisor. Academic achievements and satisfactory performance in research and other assignments while at WUSTL are the primary factors governing continuation of financial aid.

Students who are placed on academic suspension will automatically have their financial assistance cancelled, effective with the date of suspension.

Research assistants are paid a regular monthly stipend. During the academic year, a research assistant is considered to be employed half-time on a research project and, as such, is normally not permitted to register for more than nine hours of graduate credit per semester after the first year. A minimum of 20 hours of work per week is required on the research project.

However, graduate assistants whose thesis research coincides or overlaps with their project assignment are expected to devote more than this minimum effort to research. Students are expected to devote themselves full-time to their research during these periods. Students on full support are permitted to take off a maximum of two weeks during the calendar year for holidays, interview trips, etc. Additional time off can be arranged in discussion with the research advisor, but may result in a reduction of the student’s stipend. During the first year in the program when students do not have a permanent advisor, they should consult their first-year advisors to schedule any time off. Absence of research assistants must be scheduled so as not to impede the progress of an ongoing research project and should be approved by the research advisor.

Outside Employment

Holders of fellowships, traineeships and assistantships are required to devote full-time effort to graduate studies. They are not permitted to engage in any outside employment without special permission of the advisor and Department Chair.

Time Off

Graduate students receiving financial support are expected to commit themselves fully to their studies and research. Intersession periods listed in the university Academic Calendar denote times when classes are not in session, and graduate students are expected to devote themselves full-time to their research during these periods. Students on full support are permitted to take off a maximum of two weeks during the calendar year for holidays, interview trips, etc. Additional time off can be arranged in discussion with the research advisor, but may result in a reduction of the student’s stipend. During the first year in the program when students do not have a permanent advisor, they should consult their first-year advisors to schedule any time off. Absence of research assistants must be scheduled so as not to impede the progress of an ongoing research project and should be approved by the research advisor.

Tax Liability

The taxability of the various types of awards described above is determined by current policy of the U.S. Internal Revenue Service (IRS). It is prudent to assume that all stipends are fully taxable and that tax will be withheld. Questions concerning any individual’s tax liability must be referred to the IRS.
Core Courses

Students formulate their course program in consultation with their advisor. The student is expected to be proficient in the following core courses. Doctoral students are strongly urged to take at least three graduate-level classes (400-level or higher) outside the Department. These courses can be selected based on discussion with their advisor and research interest areas.

Courses are offered to doctoral students in two required core areas. The courses corresponding to these areas are:

a) EECE 501 Transport Phenomena in EECE
b) EECE 502 Mathematical Methods in Energy, Environmental & Chemical Engineering

These courses will provide the basic knowledge that is expected of all doctoral students in the Department. These classes will provide the fundamentals and the foundation in the topical areas that are essential for successful study and conduct of research in energy, environmental, and chemical engineering. A student can opt to take more advanced classes after discussion with the faculty teaching these classes. However, the student is responsible for passing the Qualifying Examination, which will be based on integrated content of the two core subject areas above.

First-year students will also register for EECE 508 Research Rotation (zero credits, S/F grade). During every semester of residency, students should register for EECE 509 Seminar in EECE (one credit, S/F grade).

Students can avail themselves of course sequences in areas of specialization in the Department. Students are encouraged to review the same on the Department website (eece.wustl.edu) with their advisors and are encouraged to avail themselves of these opportunities.

Suggested Course Selections for the First-year Doctoral Students

Fall Semester (10 credits)
1) EECE 501 Transport Phenomena in EECE
2) EECE 502 Mathematical Methods in Energy, Environmental & Chemical Engineering
3) Elective Classes (select from one or more Graduate Level Elective Classes below based on discussions with temporary advisor, noting needs for PhD qualifying exam)
4) EECE 508 Research Rotations (zero credits)
5) EECE 509 Seminar in EECE (one credit, Pass/Fail)

Spring Semester (10 credits)
1) Three or four Elective Classes (select from Graduate-level Elective Classes below based on discussions with permanent advisor, noting needs for PhD qualifying exam)
2) EECE 509 Seminar in EECE (one credit, Pass/Fail)

Menu of Graduate-level Elective Classes

Please review list of exact offerings each year – current listings of courses are maintained at eece.wustl.edu.)

Aerosol Science & Engineering
1) EECE 510 Dynamics of Air Pollutants (alt spring)
2) EECE 518 Aerosol Science & Engineering (fall)
3) EECE 5404 Combustion Phenomena (fall)
4) EECE 547 Atmospheric Science & Climate (spring)
5) EECE 563 Measurement Techniques for Particle Characterization (alt spring)
6) EECE 592 Advanced Topics in Aerosol Science & Engineering (alt spring)

Other Policies

Seminars

Each year the department sponsors or participates in a series of seminars by visiting lecturers and WUSTL faculty and students. All full-time graduate students are required to enroll in EECE 509-Graduate Seminar, which is an S/F course carrying one unit of coursework credit. Full-time graduate students may receive up to six units of coursework for EECE 509. A passing grade (S) is required for each semester for all full-time students and is earned by regular attendance at these events.

If a student plans to miss or misses a seminar, they are required to notify Rose Baxter with a reason for the same. Missing more than a certain number of seminars may require the student to make up work to obtain a passing grade. If a student misses more than a certain number of seminars in a given semester without a legitimate excuse, the student will obtain an "F" grade.

Secretarial Service

Department secretaries and staff will help students with payroll, purchases, keys and allocation of space issues. They do not generally provide clerical services to graduate students, except in connection with scheduled courses and sponsored research projects.

Copying Service

Graduate students may not charge copying work to the department or a research project without prior authorization. Personal copies can be charged to a student’s personal account. The cost of copying and binding dissertations beyond the three copies required by the department is considered a personal obligation.

Annual Reviews

All graduate students should meet with their advisors on a routine basis. Every summer, the student will undergo a formal review of his or her progress by the advisor. A standard form will be used. The faculty member is responsible for completing the review, and it is the student’s responsibility to remind the advisor to ensure that these reviews are completed annually by the end of August every year.

Other graduate classes from Chemistry, Physics, Biology and other departments must be approved by your advisor.
Instructions for Domestic Travel

Form Needed:
You can obtain a Travel Reimbursement Form (TRF) by going to the Department office in Brauer Hall, Room 1015, for the most current form available.

Make sure you fill out your name, address, student or employee ID, start and end dates of the trip, and destination and purpose of the trip. Please include a phone number or email address where you can be reached with questions.

Meals:
You must provide all receipts to be reimbursed for meals. If you purchase water, don’t combine it with another receipt total. There is a section in the Meal Category of your TRF titled “Other,” and any miscellaneous food purchases can go there. You will not be reimbursed for alcohol. If there is alcohol on a meal receipt, you must subtract it from the meal total.

If you purchase meals for fellow WUSTL students, faculty or staff members, you must note this on the receipt and include that person’s name and affiliation to WUSTL.

If you purchase a meal for someone who is not a WUSTL student, faculty or staff member, this is not considered a meal, but rather what the university codes as a Social Expense, and the person who did not purchase that expense will have to list on his or her TRF the name of the person this was purchased for and their WUSTL affiliation to the university.

Automobile Rental/Gas:
Please break out each charge, then total. All receipts must be taped (not stapled) on a piece of paper including the person’s name and affiliation, and the reason for the expense.

Hotel/Lodging:
The only totals that go in this section of the TRF are the charges for the actual hotel room and the hotel room taxes. If a hotel room safe is offered in your hotel room, you must find out if it is optional. Most of the time, hotel safes are optional. If the hotel safe is optional and you purchase it, you will not be reimbursed. If, however, the hotel room safe is not optional, you will need to write that down on the hotel receipt, and you may then include the hotel safe charges in the hotel room total.

You will not be reimbursed for Pay-Per-View movies or any pay movie channels in your hotel room.

Automobile Rental/Gas:
In the Automobile Rental/Gas section of the TRF, you will list the amounts of your rental car receipt and the gas receipts for the rental car.

If you are sharing a car with other WUSTL students, faculty or staff members, you must list their names and affiliation to WUSTL.

Note: If you are renting a car while in the U.S., you are not allowed to take out the rental car insurance that is offered by the rental car companies. You will need to decline any insurance through them. When you are traveling on behalf of the university, you are automatically covered under the university’s insurance plan. Also, you will not be reimbursed for GPS tracking devices.

Mileage:
Students will only be reimbursed for mileage to and from the St. Louis airport if they drive their own car. If you do this, please provide a mileage printout from mapquest.com or another mileage tracker website. The mileage rate changes every year, so you need to check with the Department office for current mileage rates.

Note: Sometimes it is cheaper to drive than fly, if the trip is to a bordering state or if several students are sharing a trip. If this is the case and you are driving your personal car and not renting one, you will need to provide a quote from the airline carrier and a MapQuest printout of the mileage for your trip if traveling alone. The university pays for whichever is cheaper.

If you are driving your personal car and you have more than one WUSTL student with you, please note who rode with you for the trip and their affiliation to the university.

Registration:
Any registration paid must go in the Registration section, and a receipt is required for reimbursement. If registration receipt includes break out of meals or lodging, then break those charges out into correct categories.

Telephone/Internet:
Any receipts for telephone, phone cards or Internet use must go in this section. All receipts are required for reimbursement.

Tips:
Tipping people is appropriate for services such as doormen, housekeepers, baggage carriers, etc. Do not break out the tip from meals in this section. Obviously, you won’t be able to obtain a receipt, but you will need to log each tip on a piece of paper stating the date, tip amount and reason for tip.

Tours:
If you tour any places that have a fee, such as museums, in a blank entry line after the last section titled “Other Travel,” write the word “Tours” and enter your amounts accrued in that section.

If you purchase this type of expense for a fellow WUSTL student, faculty or staff member, please list their names as well.

Receipts will be required for reimbursement.

The following is also required in order to process your TRF:

All receipts must be taped (not stapled) on a piece of paper and placed together according to the sections listed above.

No staples or duplicated papers. All one-sided.

Any sharing of meals, hotels and rental cars needs to be listed by all parties involved, as well as if one person paid the entire amount. In other words, if one person paid for the full amount of airfare or the entire hotel bill, the person who paid for it will list the receipts with their TRF and include the name(s) of the people this was purchased for and their WUSTL affiliation.

The person who did not purchase that expense will also have to list on his or her TRF the name of the person who paid for his or her expense.

Any type of shared payments must be crossed-referenced in the strictest manner for auditing purposes in the university. Once this is done, you must sign the TRF where it asks for the traveler’s signature, and then have your advisor sign it.

Any other charges to the hotel room such as meals, phone, Internet or parking, must be broken out on the TRF in the designated sections for these items.

Ground Transportation/Parking:
Any receipts for parking, taxis, tolls, trains, Rickshaws or public transportation must go in this section. All receipts are required for reimbursement.

Note: Sometimes it is cheaper to drive than fly, if the trip is to a bordering state or if several students are sharing a trip. If this is the case and you are driving your personal car and not renting one, you will need to provide a quote from the airline carrier and a MapQuest printout of the mileage for your trip if traveling alone. The university pays for whichever is cheaper. If you are driving your personal car and you have more than one WUSTL student with you, please note who rode with you for the trip and their affiliation to the university.

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You will not be reimbursed for Pay-Per-View movies or any pay movie channels in your hotel room.

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In the Automobile Rental/Gas section of the TRF, you will list the amounts of your rental car receipt and the gas receipts for the rental car.

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Note: If you are renting a car while in the U.S., you are not allowed to take out the rental car insurance that is offered by the rental car companies. You will need to decline any insurance through them. When you are traveling on behalf of the university, you are automatically covered under the university’s insurance plan. Also, you will not be reimbursed for GPS tracking devices.

Mileage:
Students will only be reimbursed for mileage to and from the St. Louis airport if they drive their own car. If you do this, please provide a mileage printout from mapquest.com or another mileage tracker website. The mileage rate changes every year, so you need to check with the Department office for current mileage rates.

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Any registration paid must go in the Registration section, and a receipt is required for reimbursement. If registration receipt includes break out of meals or lodging, then break those charges out into correct categories.

Hotel/Lodging:
The only totals that go in this section of the TRF are the charges for the actual hotel room and the hotel room taxes. If a hotel room safe is offered in your hotel room, you must find out if it is optional. Most of the time, hotel safes are optional. If the hotel safe is optional and you purchase it, you will not be reimbursed. If, however, the hotel room safe is not optional, you will need to write that down on the hotel receipt, and you may then include the hotel safe charges in the hotel room total.

You will not be reimbursed for Pay-Per-View movies or any pay movie channels in your hotel room.

If you share a room with a WUSTL student, faculty or staff member, you must list their names and affiliation and what amount of the room you paid. If you did not pay for the room, but shared it with a WUSTL student, faculty or staff member, you also must list the name of the person who paid for the room.

Note: If you are renting a car while in a foreign country, you are allowed to take out the rental car insurance. This is the section where you will list your rental car amount and gas amount/s. If you are sharing a car with other WUSTL students, faculty or staff members, you must list their names and affiliation to WUSTL.

Visas:
Sometimes when traveling to a foreign country, visa fees are accrued. Please write in a blank entry line after the last section titled “Other Travel” the words Visa Fees, and enter your amounts accrued in that section.

Note to faculty & advisors: If a reimbursement is paid using Sponsored Project funds, you must write down a justification for the fund use.

Complied TRFs should be turned in to the main office of Brauer Hall, Room 1015, for processing.

Instructions for International Travel

Form Needed:
This form is different from the domestic form normally used because you must total your purchases in foreign currency, then convert the final totals to U.S. dollars.

Please note that on this form there is a website (www.oanda.com) that will allow you to enter the dates your transactions were made and give the correct conversion amount for that day. This is also the website that the dean’s office uses to confirm the accuracy of the conversion. If you decide to use a different website for your conversion, you must provide a copy of it showing the dates used.

Make sure you fill out your name, address, student or employee ID, start and end dates of the trip, and destination and purpose of the trip. Please include a phone number or email address where you can be reached with questions.

You can obtain a foreign travel reimbursement form (TRF) by going to the main office in Brauer Hall, Room 1015, for the most current form available.

Automobile Rental/Gas:
If you are renting a car while in a foreign country, you are allowed to take out the rental car insurance. This is the section where you will list your rental car amount and gas amount/s. If you are sharing a car with other WUSTL students, faculty or staff members, you must list their names and affiliation to WUSTL.

Sponsored Project funds, you must write down a justification for the fund use.

Complied TRFs should be turned in to the main office of Brauer Hall, Room 1015, for processing.
Processing Check Requests

Check Requests are used when a person is not traveling but has local purchases such as meals, meetings, lab supplies, social expenses, etc., and needs personal reimbursement.

Form needed:
- Please obtain the most recent Check Request Form in Brauer Hall, Room 1015.
- Please provide your name, address, student or employee ID#, and a phone number or email where you can be reached with any questions.
- Please fill in the amount of the purchase, sign your name in the section titled "Requested By," and have your advisor sign the section titled "Approved By."
- You must include all original receipts with this form – copies are not allowed. If the receipts are smaller than 8.5" x 11" then you need to tape (not staple) them to an 8.5" x 11" piece of paper. Only use one side of paper (no duplicated pages).
- If you are being reimbursed for a meal or for food purchased from a store and you have paid for other people on the meal, you need to do the following:
  - If there were 15 people or less in your party, list the names of the people who dined in your party, their affiliations and the reason for the meal.
  - If there were more than 15 people, list the number of people who dined in your party and the reason for the meal.

Note to Faculty & Advisors: If a reimbursement is paid using sponsored project funds, you must write down a justification for the fund use.

Once your advisor signs the section titled "Approved By," turn it into Brauer Hall, Room 1015, for processing.

Federal Express Use

To receive a packing slip for shipping via Federal Express, a form must be filled out and returned to the main office in Brauer Hall, Room 1015. First, you can obtain the form from the main office as well. Once you fill out the form and have your advisor sign it, you will receive a Federal Express packing slip that you must fill out in the main office. Once you fill it out, you will turn in the first page of the packing slip along with the form you filled out, for tracking purposes. You will receive a copy for your records.

Forms

**List of Forms to be Completed by Students during Period of Study**

<table>
<thead>
<tr>
<th>Form</th>
<th>Date Due</th>
<th>Receive from &amp; Submit to</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRMS Personal Information</td>
<td>Upon arrival</td>
<td>Lesley Smith</td>
</tr>
<tr>
<td>Research Rotation Form</td>
<td>September 5</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Permanent Advisor Choice</td>
<td>December 2</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Thesis Information Form (used to start proposal process)</td>
<td>Three weeks before Thesis Proposal Exam</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Teaching Requirement Fulfillment</td>
<td>Before thesis defense</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Notice of Title, Scope &amp; Procedure of Dissertation (Thesis)</td>
<td>Six months before degree conferral</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Exit Document</td>
<td>Last day at WUSTL</td>
<td>Rose Baxter</td>
</tr>
<tr>
<td>Post-graduation Job Survey</td>
<td>Last day at WUSTL</td>
<td>Rose Baxter</td>
</tr>
</tbody>
</table>

**List of Forms Completed by Department Faculty or Staff**

<table>
<thead>
<tr>
<th>Form</th>
<th>Date Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD Qualifying Examination Result</td>
<td>May of first year</td>
</tr>
<tr>
<td>Thesis Proposal Result</td>
<td>Upon Completion of Exam</td>
</tr>
<tr>
<td>Annual Student Review (section for student response submitted to advisor)</td>
<td>By end of August (every year)</td>
</tr>
<tr>
<td>Final Program Form (student will receive form for confirmation)</td>
<td>Three weeks before Thesis Defense</td>
</tr>
</tbody>
</table>

Interdepartmental Invoices (IDs)

An interdepartmental invoice, or ID, is established when any part of the university bills a department for services or materials. This happens when labs are used, items are purchased at the bookstore and charged to the department, food is charged to the department at a university-affiliated restaurant such as Whittemore House, maintenance performs repairs and builds things for departments, etc. If you use a service at the university and are not a professor, you must have a professor’s approval to do so. You must provide your name and contact information on the receipt so the department knows which advisor to contact for payment.

The invoice is automatically billed to the department and staff retrieve the information from the proper advisor and pay the invoice. Failure to provide proper information for billing retrieval will result in not being able to charge IDs.

Purchase Orders (PO)

Each advisor will assign a PhD student from their lab to place orders using the Marketplace Purchasing System. All orders will be shipped to your lab. Once the order has been received, turn in the delivery ticket/packing slip. Invoices will not be paid until proof of delivery has been received. Leave ALL PO/packing slips in the mailbox assigned.

Orders placed using a Blanket Purchase Order number will still be required to obtain an account to charge and signature from the advisor once the invoice has been billed.

Instructions for International Travel continued

Tours:
If you tour any places that have a fee, such as museums, tally those in their own section just as you would for Visa Fees. If you purchase this type of expense for a fellow WUSTL student, faculty or staff member, please list their names as well. Receipts will be required for reimbursement.

Refer to the instructions under domestic travel for:
- Meals • Mileage • Registration • Hotel/Lodging
- Ground Transportation/Parking • Telephone/Internet • Tips

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- ABET coordination

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- Travel advances
- Payment of interdepartmental invoices (IDs)

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Doctoral Student Handbook 2013-2014
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