EEE Newsletter
November 30, 2015

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EEE End of Semester Celebration
The EEE office and SEEE will co-host an:

End of Semester Celebration
Wednesday, December 9
3:30-5pm
Fu Room (POTR 234)

- All EEE students, faculty and staff are invited.
- Outpost catering will be provided.
- Flyer with details attached.

December 2015 graduation candidates will be recognized!!

EEE Student Newsletters: Now Available on the Web
The EEE Newsletters are now housed on the EEE Current Students page! Have you ever deleted the email with the recent EEE Newsletter, than wished you could reference it to find the information you needed. Now you can!

- Go to the EEE Current Students page at https://engineering.purdue.edu/EEE/InfoFor/CurrentStudents
- Look under ‘Useful Resources’ column
- Click on ‘EEE Student Newsletter’

EEE Townhall Followup: General EEE Curriculum & Requirements Questions
This section will be included in the next several EEE newsletters to respond to the major topics discussed at the Spring 2015 EEE Townhall meeting. There are too many points to address at once, so topics will be placed in categories and a new category will go into each newsletter. The category for this issue focuses on general questions about the EEE curriculum, EEE requirements and ends with a question about study abroad. Read below for the related questions posed and the responses.

General EEE Curriculum and Requirements Questions

Why do the curriculum requirements change every year?
All good programs have a continuous improvement strategy. A curriculum that never changes is not improving.

The EEE curriculum seems to change every year so it’s really difficult for sophomores and juniors to understand why seniors took some classes but they don’t have to. And are any changes to the curriculum being made that may affect current sophomores? It gets confusing.
Students are required to follow the curriculum in force when they enter the University (your “catalog” year). Any curriculum changes that occur after your catalog year affect only new incoming students. Students may optionally choose to follow new requirements; and in most instances it is in a student’s best interest to do so. We have a huge commitment to continuous improvement; the town hall meeting is part of that commitment. Additionally, as we grow our faculty this allows us to offer more classes and the entire curriculum moves closer to our ideal vision. The first iteration of EEE had only five EEE core courses. We now have nine, and I believe we are intending to make a few more key changes. If you follow the POS of your catalog year it should not be confusing. Also learn to read and make use of the myPurduePlan system, as it helps track your progress in meeting specific requirements.

How does EEE ensure the required courses are relevant in our field?
We have many “stakeholders” that we consult in determining relevance to the students. The engineering accreditation board (ABET), our alumni broadly, and more specifically, the External Advisory Council, employers, and recruiters when we meet with them, colleagues at peer institutions, and the current students are all voices that we listen to when analyzing our curriculum. This process happens continuously, but we have a formal “Teaching Retreat” every May to discuss this in depth.

Why do we have to take Dynamics/Hydraulics as classes instead of other related selectives?
Hydraulics is fundamental enough to EEE that it will always be required. Dynamics is a prerequisite for Hydraulics, and this is a decision made by the CE hydraulics instructors. Many years ago when we could get away with ignoring prerequisites and EEE was part of MDE, we had half of the students skip Dynamics and half take it. The half with Dynamics performed about a letter grade better in Hydraulics. Now with Banner enforcing prerequisites, skipping Dynamics isn’t even an option. We are discussing this pre-requisite sequence with the relevant instructors, however, this decision is not within EEE.

Will there ever be an EEE hydraulics class so that students do not have to take statics and dynamics?
There is not an educational need to recreate hydraulics customized to EEE, nor do we have the resources to do so.

Is there a way to combine statics and dynamics (possibly outside of CE or ME) on the way to hydraulics because those two are not extremely useful?
EEE faculty cannot recreate every course/topic to an EEE-branded version. Could someone in EEE teach a combined statics/dynamics primer course? Yes, but that would be a severe misallocation of resources (check ‘comparative advantage’ for those of you interested in economics theory) with very little to be gained.

Why do we need to take 3 biology courses that all teach the same thing and we don’t need to take any regulation, air pollution, or water pollution class?
Great question, there is probably an opportunity to improve the biology/ecology sequence, and this will be addressed directly as EEE faculty numbers increase. While EEE does not “require” regulation or air courses as core, we do promote them as possible EEE Selective choices listed on the Table 1 page.

Why don’t we have a strong Energy theme?
The themes structure has been revised to offer a little more flexibility and creativity in developing a plan of study. “Energy” generation is not central to EEE, it is more central to ME or ECE, or even CE with hydropower.

Does EEE360 entail everything we would have learned from organic chemistry to prepare us for the field or would we still benefit from taking organic chemistry?
The organic chemistry course that was previously required was not particularly well integrated with other EEE courses. EEE 360 should not necessarily be the end of formal chemistry training depending on individual interests. You will see further examples of organic chemistry in many of the EEE Selectives.

I feel like some classes need to be better organized.
Please fill out a course evaluation, and be specific. Be specific in your Senior Exit survey.

Practicality of EEE 390?
Infinite practical. If you are invited to a networking opportunity with a 390 speaker - GO! If you have concerns, fill out a course evaluation. Be specific.
What communication occurs between professors of different courses? It seems that sometimes there are misunderstandings about what students have and have not learned in other courses which can lead to repeated material or gaps in curriculum. For example, some material covered in EEE 300 has been taught in CE/EEE 350. I have heard other students say that EEE 350 should be taken before EEE 360 because of material covered too. Faculty members do share syllabi and consult each other over course objectives and learning outcomes. It’s entirely reasonable to have some material overlap between courses, especially in the case of fundamental concepts; repetition and practice are good. I would be concerned about any perceived gaps in the curriculum (more so than repeated content). Course sequencing is always being evaluated.

Could EEE open up semester study abroad programs that have semester start/end dates similar to Purdue’s to encourage summer internships?

Each country or region has their own school calendar. It is likely one could find a company willing to be flexible on their start-end dates for summer work. Like anything, establishing study abroad programs takes much time and effort. Beginning with institutions that have strong reputations, where previous EEE students have studied, and where other Purdue engineering schools have had success is the best place to start. Students are welcome to choose other destinations but this may require more individual planning by the student. There are many other study abroad opportunities that exist via Purdue and/or College of Engineering agreements, but opportunities for environmental courses could be limited. Ultimately, students have to make choices. It boils down to prioritizing what makes the most sense for you based on individual needs and interests. Study abroad is an awesome opportunity that not all students can participate. It should be noted on the resume and so a student can easily point out to potential employers that she/he didn’t do an internship in a given summer due to study abroad overlapping significantly with summer months, but came away from the experience with a tangible skillset not often acquired on the job. Purdue heavily promotes work experience along with many other activities too, but you cannot always do everything.

**Purdue Climate Change Research Center**

**IMMEDIATE OPENING: Student Intern at the Purdue Climate Change Research Center (PCCRC)**

- The Purdue Climate Change Research Center (PCCRC) is looking for a junior or senior undergraduate student intern to help with the Indiana Climate Change Impacts Assessment.
- This student will assist with a range of tasks depending on their interests and experience. Specific work will include developing a database of reports and journal publications that will be used in the Indiana Climate Change Impacts Assessment. The student will be expected to perform literature reviews to identify existing research that may be useful to the assessment and sort publications based on their content and relevancy. Additional work may include assisting with program development and logistics for a series of public seminars and listening sessions with diverse audiences throughout Indiana. The student may also be asked to help sector-based working groups with literature reviews, data processing or other tasks as needed throughout the assessment research and writing process.
- Interested students with at least a 3.0 G.P.A. should send the below listed application materials via email to Melissa Widhalm (mwidhalm@purdue.edu).

Application materials:
- Brief interest letter explaining your strengths, skills, and any relevant coursework
- Résumé
- Transcripts (unofficial transcripts are acceptable)

The Purdue Climate Change Research Center (PCCRC) and partners from across the state are coming together to develop a comprehensive climate change impacts assessment for Indiana. Climate conditions play a critical role in supporting or hindering our productivity, safety, and livelihoods. This assessment will provide an in-depth look at the many ways a changing climate is expected to affect state and local interests, such as public health, infrastructure, agriculture, water availability and more. The primary goals of this assessment are to 1) increase awareness of likely climate change impacts in Indiana and 2) connect decision makers with the climate impact information they need to assess risks and develop adaptation strategies.

Interested students can also review the PCCRC website at [http://www.purdue.edu/discoverypark/climate/about/index.php](http://www.purdue.edu/discoverypark/climate/about/index.php)
Looking for a leadership course? Consider EDPS 30000; CRN 18290. This course can be used toward Free Elective credits in the EEE curriculum.

Leadership Course:  ENTR 47000 Women in Leadership

Looking for a leadership course? Consider ENTR 47000; CRN 18029. This course can be used toward Free Elective credits or Technical Elective credits in the EEE curriculum.
**MIT Amgen Scholars Program in Summer 2016**

- The Amgen Scholars Program is a summer research program in science and biotechnology. MIT is a participant in the Amgen-UROP Scholars Program for a tenth year. UROP is MIT’s Undergraduate Research Opportunities Program. The mission of the Amgen-UROP Scholars Program is to provide students with a strong science research experience that may be pivotal in their undergraduate career, cultivate a passion for science, encourage the pursuit of graduate studies in the sciences, and stimulate interest in research and scientific careers.

- During Summer 2015, MIT hosted 20 scholars who engaged in research under the supervision of MIT’s foremost faculty and leading researchers.

- MIT is now soliciting applications for students to engage in research as part of the summer 2016 Amgen-UROP Scholars Program. While spending a summer in Boston and gaining research experience, students will be paid a stipend; room, board and transportation to and from Boston will also be covered by their appointment. All students will live in on-campus residences. This community of young scholars will share in the excitement of research by participating in a faculty-led seminar series, workshops, poster session and a mid-summer symposium at UCLA (travel, room and board are covered).

- MIT is delighted to invite undergraduate students from other colleges and universities to join our research enterprise.

- Attached is a flyer about the Amgen-UROP Scholars Program, or more information about our program, application, and contact information can be found at: [http://mit.edu/urop/amgenscholars/index.html](http://mit.edu/urop/amgenscholars/index.html)

**Pathways to Science: Search Engine**

- Pathways to Science is a project of the [Institute for Broadening Participation (IBP)](http://mit.edu/urop/amgenscholars/index.html). Pathways to Science supports pathways to the STEM fields: science, technology, engineering, and mathematics. They place particular emphasis on connecting underrepresented groups with STEM programs, funding, mentoring and resources.

- Use this website to find programs such as undergraduate summer research opportunities, graduate fellowships, postdoctoral positions, as well as resources and materials pertaining to recruitment, retention, and mentoring.

- Visit the website [Pathways to Science](http://mit.edu/urop/amgenscholars/index.html) for more information.

**CCO Experience Survey!**

- [Help Us Help You](http://bit.ly/1NhkR7r)

  We want to make your CCO experience as great as possible! Tell us how we’re doing by taking this short survey.

- To take the survey, go to [http://bit.ly/1NhkR7r](http://bit.ly/1NhkR7r)
You are invited to celebrate another great semester! This End-of-Semester Celebration will be co-hosted by the EEE office and the Society of Environmental and Ecological Engineers (SEEE).

All EEE students, faculty and staff are encouraged to attend. Outpost catering will be provided and the December 2015 graduation candidates will be recognized.

**Date:** Wednesday, December 9th  
**Time:** 3:30-5:00 PM  
**Location:** Fu Room (POTR 234)
Now entering its tenth year, the Amgen-UROP Scholars Program invites undergraduates to participate in faculty-mentored summer research in MIT laboratories. This intensive nine-week program focuses on cultivating and supporting partnerships between MIT faculty and undergraduates in the areas of science and biotechnology. Students indicating a strong desire to engage in research collaborations within these areas will be selected from colleges and universities from around the U.S., as well as the MIT undergraduate population.

Inspiring the Scientists of Tomorrow

Objectives of the Amgen-UROP Scholars Program:

• Foster a passion for science and biotechnology by engaging students in first rate research experiences in MIT laboratories;

• Increase learning and networking opportunities for students; and

• Encourage student pursuit of graduate studies and careers in scientific research.

The Summer 2016 Program at MIT

Students participating as Amgen Scholars will:

• Gain hands-on lab experience and contribute to the advancement of science and engineering;

• Receive guidance from MIT faculty and research scientists;

• Engage in networking activities, including faculty-led seminars;

• Participate in a mid-summer symposium on research in the biotechnology industry, held at UCLA; and

• Present at a MIT poster session concluding the summer program.
Eligible MIT Research Areas:
- Biological Engineering
- Biology
- Brain & Cognitive Sciences
- Center for Environmental Health Sciences
- Chemistry
- Chemical Engineering
- Health Sciences & Technology
- Mechanical Engineering (bioeng/biotech only)
- Picower Institute for Learning & Memory

Compensation
Amgen-UROP Scholars working 40 hours per week for the nine-week period will earn $4,320, at an hourly wage of $12.00. In addition, a $800 meal allowance and on-campus housing is provided to all Scholars. Travel to and from MIT for the beginning and end of the Program is covered for visiting (non-MIT) students.

Eligibility
Amgen Scholars U.S. Program applicants must be:
- U.S. citizens or U.S. permanent residents;
- Undergraduate students enrolled in accredited four-year colleges or universities in the United States, Puerto Rico or other U.S. territories; and
- Sophomores (with four quarters or three semesters of college experience), juniors or non-graduating seniors (who are returning in the fall to continue undergraduate studies).

U.S. program applicants must also have:
- A cumulative grade point average of 3.2 or above; and
- An interest in pursuing a Ph.D. or M.D.-Ph.D.

To learn more about the MIT Amgen-UROP Scholars Program and how to apply, please visit: mit.edu/urop/amgenscholars

For more information, please contact MIT Amgen-UROP Scholars Program staff at (617) 253-7306 or by emailing mit-amgenscholars@mit.edu.

www.amgenscholars.com · mit.edu/urop/amgenscholars

Amgen Scholars is an international program funded by the Amgen Foundation with direction and technical assistance provided in the United States by the Massachusetts Institute of Technology and in Europe by the University of Cambridge. The Amgen Foundation seeks to advance science education; improve patient access to quality care; and strengthen the communities where Amgen staff members live and work. Since 1991, the Foundation has made more than $140 million in grants to nonprofit organizations across the United States, Puerto Rico, and Europe that impact society in inspiring and innovative ways. It has also supported disaster relief efforts both domestically and internationally. To learn more about the Amgen Foundation, visit the Corporate Giving section of www.amgen.com.