The McCormick Office of Personal Development, also known as the MOPD, is dedicated to encouraging each undergraduate to explore personal strengths, values, and goals, and opportunities to build essential skills; engage with academic, professional, and extracurricular experiences in an intentional way; and transform into an adult with a clearly defined sense of purpose and the skill set to succeed.

Led by Assistant Dean Holtgreive, Heather Bacon, Claire Gallerano, and the MOPD Student Advisory Board, the MOPD seeks to accomplish its mission through fostering the five core competencies: Awareness, Optimization, Fidelity, Resilience, and Self-Reliance.

Each quarter, the MOPD sponsors programs, guest speakers, workshops and events, focused on helping students develop the five core competencies and the skills to be lifelong adaptive learners.

The MOPD helps students learn about the variety of opportunities available at McCormick, choose experiences that serve their personal goals, and reflect on their experiences to better understand who they are and how they can reach their goals.

Visit the MOPD website to learn more about the MOPD.

Meet the MOPD Board

The MOPD Student Advisory Board supports the mission of MOPD by contributing to the development, planning, and implementation of programs for McCormick undergraduates. Board members have significant input into MOPD programs and offer insight into the interests and needs of students. This year’s Board members include: Mindy Chua, John Hodges, Allie Lamens, Ruilong Ma, Isabelle Orrico, and Lauren Tyndall.

For more advising information, visit the “Academic Life” page on the MOPD website.
MOPD Board Members

Name: Mindy Chua
Class: Junior
Major: BME
Hometown: Manila, Philippines & Bellevue, WA

About: Apart from my engineering classes, I enjoy taking design classes, volunteering at Mather Pavilion, and trying out different cuisines! In my lifetime I hope to visit all the National Parks in the USA and as many World Heritage sites as I possibly can.

Name: Isabelle Orrico
Class: Sophomore
Major: Computer Engineering
Hometown: New Jersey, now the Chicago ‘burbs

About: Outside of McCormick, I’m a member of exec in Slivka and work as a house-staff supervisor at Norris. I love running and spend a good amount of time at SPAC. My favorite part of MOPD thus far has been taking swing dance class and helping to put on the Tech Factor.

Name: Lauren Tyndall
Class: Senior
Major: Mechanical Engineering Design
Hometown: Edmond, OK

About: I spend my free time sipping coffee and staring off into the distance contemplating my life.

Name: Alexandra Lamens
Class: Junior
Major: MechE
Hometown: Melbourne Beach, FL

About: I’m the Society of Women Engineers Program Chair, part of the Women’s Club Basketball Team, and I work at Norris. Sadly, that’s about it, other than IM sports and general buffoonery. Oh, and my favorite part about the board is Tech Factor and giving people the opportunity to show off their hidden talents!

Name: Ruilong Ma
Class: Senior
Major: Materials Science and Engineering
Hometown: State College, PA

About: In grade school, I ingested capsaicin extract as a part of a dare. In that ensuing hour, I also managed to complete the milk gallon challenge. In recent years I have been slowly reacquiring my fondness for spicy foods. My life goal is to not sleep through an early morning midterm.

Name: John Hodges
Class: Senior
Major: IE
Hometown: Milwaukee, WI

About: Outside of class I love to go sailing, protect sea turtles, and learn about energy and the natural world. I believe that engaging with people of different experiences is very rewarding. Anything in the sun sounds fun.
Helpful Hints from Heather

Heather Bacon is your one-stop shop for all of your McCormick advising needs. Registration can be overwhelming, but no one understands the ins and outs of the process better than Heather! As you prepare for registration, Heather has a few “hints” to ensure that the registration process goes smoothly. Check them out!

1. Always check CAESAR for any holds placed on your account BEFORE your registration time. There are many different types of holds that are placed by various offices across campus. It’s always better to be aware of them well in advance to avoid delaying registration.

2. Meet with your faculty advisor and turn in your study plan. Advising week is February 18-22. MEAS students have to turn in a signed study plan every quarter prior to registration. Don’t forget to make and keep your advising appointment!

3. If you don’t know, ask. Whether it’s questions on degree requirements or on improving study skills, feel free to come to the Undergrad Engineering Office in L268-269. We’re here to help!

Featured Student Artist: Christina Fuentes

Nature, man and the man-made—all from a Chicagoland's perspective. Christina is passionate about extraordinarily expressing the ordinary via metal, cardboard and whatever materials on hand. Her childhood dabbles into pencil-paper doodles gained a dimension when she first tried her hands on clay. Since then, she has woven intricate works of sculpture, when not weighed down by a heavy course load. Experience more of Christina’s work on the MOPD website.

Nominate a Student Artist for next quarter!

Featured Faculty Profile: Seth Lichter

Seth Lichter joined the Northwestern faculty in 1991 and is a professor of mechanical engineering. He has received the Office of Naval Research Young Investigator Award and the Clemens Herschel Prize for Excellence in Engineering.

Lichter’s academic specialties span the areas of fluid dynamics, Hamiltonian systems and protein folding.

He has a BA in engineering and applied physics from Harvard University, a MS in aerospace engineering from MIT, and a PhD in mechanical engineering from MIT.

Learn more about Professor Lichter on the MOPD website.
Are you more than just brains and good looks?

Do you have hidden skills that you can’t show off in EA? If so, we want you! Audition for the MOPD’s talent show, Tech Factor, coming to McCormick on May 24, 2013. Video submissions will be accepted late March-April 19.

Be prepared to submit a 3-4 minute video of your act! Check out the video of last year’s winner on the MOPD website.

Covering the “Basics” for Undecided Students

Looking for a Basic Engineering course but can’t decide whether to major in Chemical or Environmental Engineering?

Chem Eng 211 counts towards both degrees!

Make the most of your Basic Engineering courses by choosing a course that counts towards your BE requirement in multiple majors. Check out the Basic Engineering Course Selection spreadsheet in the Academic Life section of the MOPD website under “Tools for Academic Planning” to find a course that is right for you!

“Engineering in the Abstract: Balancing Intuitive and Analytical Thought”

February 26, 2013 2:00pm - 3:30pm
Ford Motor Company Engineering Design Center, 1.350 (ITW Classroom)

Nationally recognized artist, Marianne Mitchell will demonstrate effective tools for innovative problem solving and an opportunity for self-reflection through the practice of making abstract art. Learn how right-brain intuitive and left-brain analytical (scientific) thought inform each other to reach resolution in making art, in the practice of design and engineering, and in one’s life. This practice fosters Integrative Thinking for superior productivity and Whole Brain Innovation.
### Advising Notes

#### Applied Math

- **ES_APPM 311-3:** This course is offered this spring, MWF 12-12:50pm. It is only offered every other year, so if you are a junior applied math major, this is the year to take this course. It can be taken out of sequence with ES_APPM 311-1,2, with the permission of Prof. Silber.

- **ES_APPM 421-2:** This course is offered this spring, MW 2-3:20pm. It can be used to meet the modeling course requirement. (This course should not be taken out of sequence with ES_APPM 421-1.)

- Sophomores and Juniors sign up for advising with Prof. Riecke, while Seniors sign up with Prof. Silber. Students who are considering a dual engineering degree, with applied mathematics as one of the majors, are encouraged to sign up for advising, even if they have not officially declared the applied mathematics major. Juniors who are considering the departmental honors program should discuss this with their advisor before the end of the spring quarter.

- Forms for a **dual engineering degree**, and for the department **honors program** can be found online.

#### Chemical & Biological Engineering

- Two new sections of CHE 395: **Molecular Engineering and Statistical Mechanics** will be offered – A deeper look into the properties and behavior of atoms and molecules. Prerequisites: Chem Eng 211 or thermodynamics course. Recommended: probability and statistics; heat transfer or other transport course. MTWF 11:00. **Quantitative Methods in Life Cycle Analysis** will be offered – Apply engineering fundamentals to assess environmental impacts associated with the lifetime of a product from raw material extraction to disposal or recycling. MTWF 2:00.

- **Minor in Biotechnology and Biochemical Engineering** provides training for students interested in the pharmaceuticals, biomaterials, biofuels, and other industries using the tools of modern biology. Find out more.

- The **Honors Program** requires a two-quarter course sequence of independent study (Chem Eng 399) and three units of approved advanced study. If interested, contact your advisor and the Honors Program advisor (Prof. Cole).

#### Civil and Environmental Engineering

- BSCE students should take **CIV ENV 216** since a laboratory component is required.

- Technical electives: Under the current catalog year, only one 399 can be counted and must be from the Department of Civil and Environmental Engineering (**CIV ENV 399**). This applies to both the BSCE and BSEE programs.

- Students interested in pursuing the **BS/MS option** with a MS portion being in the Department of Civil and Environmental Engineering need to follow the procedures presented on the Departmental website.

- Members of the Northwestern ASCE and EnvEUS (AAEE) Student chapters as will be available for peer advising.

- The Department and its associated students groups - ASCE and EnvEUS – are planning a **career fair** for the Spring quarter 2013.
Computer Engineering

- **EECS 398**: "Programming Massively Parallel Processors with CUDA" will be offered during the 2013-2014 academic year (previously available as a special topics course). This course focuses on developing applications software for graphics processors with massively parallel computing resources. Ideally this course will bring together people with strong programming skills, with people with a strong need for solving compute-intensive problems that can potentially benefit from programming graphics processors. Prerequisites include: EECS 211, EECS 230, EECS 231, or equivalent C programming experience. Useful but not required: EECS 361 and EECS 358.

- **EECS 498**: Students may alternatively register for this 400-level version of the same course. The classroom material is identical, but students taking this course for credit will work on a quarter-long open-ended final project that draws upon their own interests and line of research. Note: That a student can count at most one of these courses towards degree requirements.

Computer Science

- EECS 101 is an introduction to computer science designed to demonstrate a broad swath of CS (unlike a conventional introductory course, which focuses on teaching programming)

- EECS 111 is our first course in the major (and minor) -- it has no overlap with AP CS and cannot be placed out of.

- EECS 368 is a new course on programming massively parallel systems with CUDA

Electrical Engineering

- For students considering EE or CompE as a major, **EECS 100** provides a broad introduction to these fields by a mix of seminars and lab tours. It will be offered in the spring on MTuWF.

- For the first time in several years, **EECS 308** will be offered in spring 2013 11-11:50 MWF. This course can count as one of the 6 required EE track electives.

- All EE majors are required to take a “capstone” Electrical Engineering Design course. Options for the spring include **EECS 392** or a **EECS 399** design project. For a 399 project to count it must be taken when a student has senior standing and the student must file a form signed by the advisor that states that this is a suitable design project. Forms can be found in the [EECS Undergraduate Study manual](#).

Industrial Engineering

- Members of the Northwestern Student IIE chapter will be available for **peer advising** during advising and registration weeks. Peer advisors will be available every day Feb. 18-22 and Feb. 25-March 1 from 11-1 in C122. No appointment is necessary.

- The time for **IEMS 385** has been changed. In spring 2013 the course will be offered MW 3:30-4:50.

- **IEMS 326** will be offered in spring TTh 3:30-4:50.

- Waitlist requests for IEMS courses are handled directly by the department. To submit a waitlist
request, visit https://sites.google.com/a/u.northwestern.edu/iems-undergraduate-program/home/wait-list-policy and take care to read all of the instructions posted there. You may not submit a waitlist before your registration appointment time has arrived. Note that adding yourself to a waitlist in Caesar will not put you on the course waitlist in the department.

Manufacturing and Design Engineering

- Many of the MaDE/Segal courses have updated course numbers and titles. Please review the matrix below as you register for the spring quarter.

<table>
<thead>
<tr>
<th>New Course Number and Title</th>
<th>Previous Course Number and Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSGN 221: Design Sketching</td>
<td>DSGN 297: Sketching Techniques for Engineers</td>
</tr>
<tr>
<td>DSGN 386: Manufacturing Engineering Design</td>
<td>DSGN 344: Manufacturing Engineering Design</td>
</tr>
<tr>
<td>DSGN 350: Intellectual Property and Innovation</td>
<td>DSGN 350: Innovation and Invention</td>
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<tr>
<td>DSGN 360: Design Competition</td>
<td>DSGN 360: Design Competition</td>
</tr>
<tr>
<td>DSGN 380-2: Industrial Design Projects II</td>
<td>DSGN 395: Industrial Design Projects II</td>
</tr>
<tr>
<td>DSGN 305: Human Centered Service Design</td>
<td>DSGN 395: Human Centered Service Design</td>
</tr>
<tr>
<td>DSGN 346: Design for Fabrication: NX</td>
<td>DSGN 395: Design for Fabrication</td>
</tr>
<tr>
<td>DSGN 348: Rapid Prototyping</td>
<td>DSGN 397: Advanced Topics: Rapid Prototyping</td>
</tr>
<tr>
<td>DSGN 384-2: Interdisciplinary Design Projects II</td>
<td>DSGN 398: Interdisciplinary Design Projects II</td>
</tr>
</tbody>
</table>

- **DSGN 386: Manufacturing Engineering Design** (previously DSGN 344) is being offered for the first time in ~4 years. This is the new capstone course for MaDE students and requires senior standing to enroll.

- **Professor Liz Gerber** will be teaching **DSGN 305: Human-Centered Service Design** in the spring. This course may be used, via petition, toward the MaDE degree in lieu of **DSGN 308: Human–Centered Product Design**.

- All questions concerning the MaDE curriculum, including advising, should be directed to Professor David Gatchell, Director of the MaDE Program (d-gatchell@northwestern.edu).
Materials Science

- **Freshmen MatSci majors** should consider taking MatSci 301 in spring (pre-req Chem 102). This course is for MSE and ChBE majors.

- **MatSci Technical Electives** – Students interested in nanomaterials might consider registering for Chem 360 Nanoscale Patterning: Top-down Meets Bottom-up (pre-reqs C- or better in Chem 103 or 172) in SQ13 (this will count as a Tech elective). Other spring quarter MatSci electives include MatSci 360 Introduction to Electron Microscopy (pre-reqs MatSci 301 & Phys 135-2,3), MatSci 370: Biomaterials (pre-req junior standing in MSE or equivalent), MatSci 371 Biominerals; Hierarchical Architecture & Function, MatSci 372 Biomaterials for Tissue Engineering (formerly 395 - Shah) and MatSci 381 Materials for Energy Efficient Technology. Details are found [here](#).

- **The Materials Science and Engineering Departmental Honors Program** – Students may apply to this program after their sophomore year. At the time of application, the student’s cumulative GPA must be 3.50 or higher and the 3.5 must be maintained until graduation. Students must register for a quarter of MatSci 394 Honors Project prior to 396-1 and 396-2 Senior Project. If you are a junior and plan to pursue the Honors Program, you should discuss this with your academic and research advisors and you should sign up this quarter. The following [form must](#) be turned in to the Tech Registrar:

- **Summer Research** – The deadline for the NU MSE Meister summer research awards (freshmen and sophomores in MSE) is April 1. The deadlines for most summer research programs funded by NSF, DOE, etc. are in February and March. Details on the Meister summer research awards are found [here](#).

- **Student Awards** – the deadline for awards to NU MSE seniors, juniors and sophomores is May 1. Submit an Application [here](#).

Mechanical Engineering

- New course: ME/ChBE 395: Quantitative Methods in Life Cycle Analysis for students interested in quantitative techniques for assessing the sustainability of technology systems from multiple environmental perspectives (e.g., energy use, air and water pollution, resource depletion, climate change, and water use) and in applying these techniques to enable greener designs, manufacturing systems, and public policies. **Students typically take this class in their junior or senior years. TTh 2:00-3:20pm.** Prerequisites: ME 220/ CHEM ENG 211 (Thermodynamics); Gen Eng 205 1, 2, 3, and 4 (Engineering Analysis) Visit [website](#) for more info.

- If you absolutely cannot connect with your advisor, or need extra help, the Mechanical Engineering Department is offering **two drop in advising sessions** this spring. **Wed, Feb 20, noon - 1 pm in Tech A211 and Thur Feb 21, noon - 1 pm in Tech A211.** Advisors will be available to answer questions and sign your study plan. **However, you will have to obtain your study plan from your regular advisor.**
New Personal Development Courses

PRDV 395, EI 101: Emotional Intelligence: Managing Yourself, Maximizing Your Potential

In this new course, taught by Staff Psychologists David Shor, Ph.D. and Rob Durr, Ph.D., as well as Assistant Dean and MOPD Director Joe Holtgreive, students will study theories of EI and how it relates to personal and organizational success. Students will also have the opportunity to examine their social and emotional strengths and weaknesses and learn how to perceive and effectively manage emotions within themselves and with others. TuTh, 3:30-4:50pm

PRDV 397, Whole-Body Thinking

Assistant Dean and MOPD Director Joe Holtgreive and dance professor Billy Siegenfeld have teamed up to offer a course for engineering students called “Whole-Body Thinking.”

The course will introduce students to rhythmic partner dancing in order to explore how meeting the challenges of moving in synchrony with one another can serve as a metaphor for collaborative problem-solving. Read more on the MOPD website.