

INDUSTRIAL BLUEPRINT

APRIL 2014

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FROM THE EDITOR

Hi IOE,

Well it is that time of the year again. Things are going to get crazy, but before you know it we will be on summer break! This issue is full of the all of the random (but great) articles

that I could not figure out where to put in other issues. Hope you all enjoy the variety. Good luck on exams everyone!

-Alex

MICHIGAN LONGBOARDING

BY NABEEL RAFA KASIM

Longboarding is a form of skateboarding but with a much different twist. It involves a wood board, ranging from 36 to 50 inches, with wheels and trucks attached, similar to a skateboard. I picked up the sport of longboarding early in my high school years and have continued to pursue my passion through college. When I came to campus I met a number of students who had shared interests in the sport and we all felt the need to organize ourselves.



We developed a vision and saw the benefit of starting a new UofM student organization. We built the club from the ground up focusing upon the following goals and ideas: The Michigan Longboarding club exists to promote camaraderie between all longboarders on campus. The aim is to organize various recreational events pertaining to the sport of longboarding. The club will also raise awareness as well as provide a gateway for those looking to get into the sport. And our mission is to encourage inclusivity of all longboarders from all skill levels. I enjoyed learning the process of registering a new student organization. By winter semester of my sophomore year we had the organization up and running and immediately began recruiting new members. Similar to the snowboard club, our organization organizes group rides and bonding activities to create a close knit group of students passionate about the sport of longboarding.

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WHAT IS AN ACTUARY?

BY: WILSON WONG

Risk is something that every person has and always will have to deal with. It is a fact of life, and most people are fairly uncertain how risks impact their future. This is where actuaries play a key role.

When I tell people I want to be an actuary, the most common response I get is “what is that?” In the broadest sense, actuaries use knowledge of probability, statistics, economics, and business to solve problems related to risk management. I plan on entering the profession because it will allow me to exercise my math skills in a business environment. The work is exciting in and of itself, and the financial rewards reaped provide a very plush padding to the industry’s wallets.

To become a fully credentialed actuary, aspiring students have to pass a series of extremely rigorous exams. Because of their difficulty the time to complete them all and be designated an actuarial “fellow” can take 10 years or more! The path to becoming a fellow is comparable to going to medical or law school. The difference is that there is no formal schooling and students actually work a full-time job while earning their credentials.

What kind of companies do actuaries work for? There are two main industries: insurance and consulting. In insurance, most of the work done is in creating insurance policies that maximize value to customers and profit to the firm while in consulting, actuaries deliver advice to companies on how to price their products, fund pension plans, and what insurance policies to buy.

This summer, I will be interning at Swiss Re, a reinsurance company that essentially blends the insurance and consulting experiences in one. Most of my projects will be based on use of Excel and Visual Basic programming. Actuaries are colloquially known as “Excel wizards”, and as an IOE I am glad the department makes such heavy use of the program in our curriculum. The work that my recruiter described to me is similar to what I had done in IOE 201/202 and the projects that we are currently working on in IOE 310.

Risk is opportunity. Actuaries are instrumental in creating value from risk, and I cannot wait to jump in and develop my skills in the profession. Hopefully this has informed many people about the career and maybe even convinced you to become an actuary!

TEAMWORK

BY: LEAH RASCHID

As we all know as Industrial and Operations Engineers, we need team work in many of our classes. Even freshman year, nearly all of our classes emphasized this. Before college I didn’t love the idea of working with a group because I was able to complete the work on my own and at my own pace. Within a matter of weeks my freshman year, I can remember realizing that my avoidance of teamwork wouldn’t be enough to get me through these courses. Nowadays, I can see great benefit inside and outside of the classroom. Working with others requires patience and good communication skills. From internship experience at Johnson Controls Lithium Ion Battery Facility, teamwork is essential. Every morning the Continuous Improvement team and I met to cover the daily agenda, as well as help each other with current projects.

We needed each other in order to get anything done. The team needed to talk to management and workers for feedback before implementing new ideas. Without their thoughts, our work would be useless as they could ditch the ideas and go back to old routines. For instance, I observed changeovers and suggested improvements. I talked with my supervisor of my suggestions, and she called a meeting with the area of manager. He agreed as well and brought it to the attention of the employees. They were unaware of the inefficient routine, and were willing to use moving carts and other techniques to reduce downtime. Without approval from all areas, they might have not agreed to my ideas, and caused tension within the facility. Overall, other people can give feedback, motivation, and opinions to help you, not to tear you down. If you can’t work in a team now, your coworkers in the future might not be any better.

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

BY: AGNEY DESHPANDE

This past summer, I participated in a study abroad in Hong Kong through the Hong Kong University of Science and Technology via the International Programs in Engineering (IPE). I enjoyed the experience, and would recommend it to anyone trying to decide on a place to study.

“THE EXPERIENCE ALLOWED ME TO CONSIDER DIFFERENT WAYS OF COMPLETING A TASK.”

Prior to the trip, IPE brought all the participants together so we could meet each other and learn about the guidelines and expectations of the program. One of the things that they emphasized was “Culture Shock,” the feeling of disorientation and anxiety that comes from being in a foreign environment. In fact, I experienced minimal culture shock, and this is one of the reasons I find the Study Abroad experience to be so beneficial. The reason is that I wasn’t truly thrown into the new culture- I was in a program with several UMich students and many more from around the country. Even though we had to navigate a new culture, we had solidarity and camaraderie with other people. For me, that was the first time I had to try to adapt to a new culture, and I was able to succeed due to the support of people around me who were experiencing similar problems. In an employment situation, I would have to navigate through this environment alone, but the study abroad program helped to ease me into it, and it made me more confident that I could adapt if my career takes me somewhere new.

I experienced the most drastic change in culture while working with local students

on a project for our class. Our group consisted of three local students, a UMich student, and me. The local students lived off campus, while we were staying in the dorms, so we decided to

meet in the campus library over the weekend to work on our project. Though all three local students had laptops and used them regularly during class, only one of them had brought a laptop to our meeting! At first I thought that they had forgotten them, but it was a consistent occurrence over several days. What I realized was that we had different views of how a team project works. To me, and the UMich student who I was working with, team collaboration implied that each individual will work on the part assigned to him or her, and the purpose of the meeting is to compile, ask questions of the other members, and edit based on their recommendations. We wanted everyone to be there so if we found some important information or needed to make a change, there would be no delay in communication. To the local students, the purpose of the meeting was to discuss the project, but it was more important for every member to have a hand in every part of the project. While I wanted to focus on my portion, the local students thought it was better to have everyone’s input in all parts; hence only one laptop was needed because only one section would be relevant at a time.

The experience allowed me to consider different ways of completing a task, but once I came home I stuck with what I was used to. I enjoyed the whole experience, made new friends, and best of all learned how to use chopsticks!

PHI SIGMA RHO: ENGINEERING SORORITY

BY: BRITTANY LOPEZ

Large schools such as the University of Michigan offer so many opportunities for students to get involved on campus, that it becomes a matter of picking and choosing which organization you think will best fit you. As a freshman, I was struggling to decide which student clubs I wanted to devote my time to when I came across Phi Sigma Rho, a social sorority for women in engineering. During the recruitment process, I met a ton of girls who were similar to me in both academic and personal interests and knew that I had found a community within the university that I would be able to thrive in.

This sorority was founded on many principles, one of the most important being scholarship. Phi Sigma Rho is a community where we support each other's academic success by tutoring each other, working together in our study rooms at the UGLI, or even just providing help on a homework problem. We can give each other advice on which

classes to take with what teachers, as well as comfort one another when we are having a stressful week. With over 70 girls, it is impossible to not run into a familiar face while walking across campus to our classes. All of us strive to excel in our academic careers, and this only becomes easier when you have a group of girls around you doing the exact same thing.

Phi Sigma Rho is so much more than just your typical sorority or student organization. It is a sisterhood. It is a group of girls who support each other academically, personally and professionally. There are so many ways to contribute to the sorority and so many ways you can benefit from it. Phi Sigma Rho can be whatever you want it to be. Some girls might say it is a group of girls to do homework with, others may say it is their friends who they spend time with on the weekends, and others may say it is their network for jobs and internships. No matter how you approach it or how involved you decide to become, Phi Sigma Rho will positively impact your college experience, as it has tremendously for me.

HAVE YOU EVER THOUGHT OF DOING AN IOE/ME DUAL DEGREE?

BY: SHAN HE

I declared IOE at the end of my freshman year and then, by chance, read about the dual degree program between IOE and ME and decided to look into it. I finally declared my second degree in ME my sophomore year. Here are two things I have noticed about the program so far:

- 1) Much more work but also much more fun: IOE and ME are really different from each other, and provide unique difficulties for me. In most of the IOE classes, the main difficulty is to have a good understanding of the material by memorizing the methods or knowledge, while for ME, the material is usually conceptually challenging and the best way to get better is to do more problems. When you reach the point that you can understand when and where to apply certain equations, you can deal with various problems relating to the same concept. Studying both majors trains me to be more

efficient as well as capable of learning and understanding new skills and knowledge. Doing both majors is definitely harder than doing IOE itself but I am finding them both really rewarding.

- 2) Better chance of getting a good job: IOE students are needed in a lot of firms and industries but a combination of IOE and ME gets you a more solid education foundation for a lot of jobs. In IOE, students learn how to maximize the efficiency of supply chains and production lines while in ME, students are trained to have a better understanding of manufacturing. With a combination of both majors, one definitely has higher potential of being a more successful and all-around engineer.

OPTIMIZE

BY: ALBERT LEE

Last semester, I saw a Facebook post in the group “Michigan Startups” with information about a student organization called “optiMize.” Since I have an incredible interest in optimization techniques and other IOE topics, I rushed to the mass meeting to find out more about this group.

I found myself in a small room inside the Michigan Union surrounded by business and LSA students. Everyone was talking at a very high level about their passions, and no one even really knew what I meant when I said I had a great interest for optimization techniques. When I asked why the group chose the name “optiMize,” I was told that they thought the word sounded cool. These were definitely not from the type of people I normally interact with. However, after the group’s co-founders went over information about their organization, I became very intrigued.

One thing that I clearly remember was that I still had no idea what optiMize did after I left that meeting. Rather than talking about what they do, optiMize co-founders started their presentation with their values. Afterwards, we broke up into small groups, and talked about how we could create value for people at the University. I did not understand nor agree with most of the ideas that were posed, but I was excited by the raw passion these students showed when talking about them. I remember when it came time for me to share my ideas, people genuinely listened despite having very little understanding of

my technical jargon. They also asked me many questions, many of which were ones I haven’t considered, I realized after that meeting that even though I did not know what the organization did, I wanted to be part of it because I wanted to be around people who cared about their work.

I could not have been happier with this decision. Although I still do not have a full grasp of the term “Social Innovation” and I still wish other members communicated their abstract ideas in a more concrete manner, I am happy with the work I am doing. After spending the first semester doing marketing, the team decided that they wanted to tap into my analytical mindset and allowed me to work on Evaluations. I am now currently developing key metrics to objectively measure social impact, and analyzing processes within the team to improve efficiency. I am able to apply my IOE skills through value stream mapping and data mining, and I am around people who value my talents as an engineer.

The big lesson I learned through my experience with optiMize was that I could apply my background as an IOE major in very “non-engineering” environments. The key to this working is that I must respect the work that people from other educational backgrounds are doing, and they must respect the skills and ideas I offer. I am very happy that I am able to bring value to optiMize as an engineer, and the viewpoints of its diverse members have definitely added value to my own life.

MICHIGAN MANZIL

BY: UJWAL BHARATH

Entering college, I had heard often about how important it was to join student organizations and find your passion. In high school, I found myself being uninvolved in extra-curriculars and instead found passion in waiting for school to end so I would wistfully waste my time until my favorite primetime television show would come on. Reflecting back on my high school experiences (or lack thereof), I encouraged myself to go to Festifall and explore the options the University of Michigan had for me. I had never been more intimidated seeing hundreds of people throwing

quarter-sheets my way and having animated pitches thrown at me by fervent club members. As overwhelming as my experiences were, I ended up joining the Indian American Student Association (IASA), mainly because of my peers’ suggestions. I wound up dancing for the IASA Culture Show, ZASTANA, and surprisingly found pleasure in performing. Days after the show, I received a text message from a friend asking me to tryout for the competitive Bolly-

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wood dance team, Michigan Manzil ('manzil' is Hindi for destiny). A few of my friends were interested in tryouts and initially I was hesitant. But with the help of my friend and him bringing me a shirt and a pair of shorts, I summoned the courage to bring myself to perform in front of the best Bollywood dancers on campus. At the beginning of the tryouts, I was intimidated by all the other people at tryouts but decided to set expectations low. However, I ended up making it to call-backs, and later received a call informing me I was offered a spot on Michigan Manzil.

A year later, I have found myself taking leadership of Michigan Manzil and serve as the Treasurer. I have truly found passion in something I could not have imagined myself doing in high school. As a dancer on Manzil, I find myself traveling during the Winter semester (competition season) and performing for audiences around the country at national-level competitions. We have competed in national level competitions in Berkeley, CA, Boston, MA, and Chicago, IL against the nation's best collegiate dance teams. Through the competition, I enjoy the camaraderie and competitive spirit that goes along with representing the University of Michigan. I have even made connections with members of different teams and have established and sustained friendships.

As an Industrial and Operations Engineer, I have found practical use of materials learned in lecture that directly correspond to decisions made on Manzil. For example, I have

conducted a cost-benefit analysis to explain the need to buy props for our dance production and have used knowledge from ergonomics to plan logistics for competition weekends. Although joining a dance team may look odd on my resume filled with technical experience, I believe it provides me the unique opportunity to stick out. I recommend those searching for clubs that not only translate technical skills but provide distinctive experiences. I even find myself talking about how the decision to join Manzil is one of the most important and influential decisions of my life in interviews.

I think back to how serendipitously I decided to come to tryouts and how much has changed since joining the team. I now find myself practicing every day in Mason Hall with 16 other of my closest friends who all share the same passion for performing as I do. If I could pass one message along to students still searching for that college defining extra curricular, it would be to try something new and different; something you could never have imagined yourself doing. As it seems, the best things in life are often the most unexpected and college gives us the opportunity to explore various facets that typically reveal hidden talents and/or passions. So the next time someone shoots you a mass email, text, or quarter-sheet, give it an extra second of consideration before you discard it. You never know that the email, text, or quarter sheet could be the pathway to the college-defining club.