

Industrial Blueprint

-The IOE Student Newsletter-

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Brought to you by APM and IIE

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Undergraduate Walk-In Counseling Hours

Professor Yili Liu (Program Advisor):

Mondays: 2-3:00pm & by appointment
In G622 IOE
E-mail: yililiu@umich.edu
Phone: 763-0464

Justina Chiang (IOE/EGL Peer Counselor):

Tuesdays: 11am-2pm
In 1749 IOE
E-mail: jlchiang@umich.edu

Pedro Vaz (IOE/EGL Peer Counselor):

Wednesdays: 11am-3pm
Thursdays: 11:30am-1:30pm
In 1749 IOE
E-mail: pvaz@umich.edu

Steven Agacinski (IOE/EGL Peer Counselor):

Mondays & Wednesdays: 10am-11am
Fridays: 10:30-11:30am, 12:30-3:30pm
In 1749 IOE
E-mail: spagaci@umich.edu

Punit Mattoo (IOE/EGL Peer Counselor):

Mondays: 11am-3:30pm
Thursdays: 10-11:30am
In 1749 IOE
E-mail: mattoop@umich.edu

Pam Linderman (IOE Undergraduate Advisor):

In 1603 IOE
E-mail: plinder@umich.edu

Upcoming Events

October 28	Home Football vs. Northwestern
October 31	Halloween
November 4	Home Football vs. Ball State
November 11	Veterans Day

A Few Words From the Editor . . .

Hello everyone. Coming to you live from the basement of the UGLi... the 2006-07 Blueprint Editing staff would like to present to the IOE public the first issue of the University of Michigan's industrial engineering newsletter, the Industrial Blueprint!

So kick back, relax, throw your feet up on the 310 desk, and enjoy some interesting and time wasting literature.

This issue goes out to everyone trying to get a job. Keep your head up and confidence high, and good news will come your way soon.

Halloween's coming up and everyone is getting their costume ready, but don't forget the essentials; it's just an excuse to party with as little clothes as possible, and whatever you do, do NOT take candy from strangers.

Well I hope ya'll enjoyed the breakout issue of 2006. Until next time, stay warm in the cold, and do not party too hard.

Love,
The IOE Blueprint Staff



Visit the IOE Department Website:
<http://www.ioe.engin.umich.edu/ugrad.html>

IOE Student Societies

Alpha Pi Mu (APM)

<http://www.engin.umich.edu/soc/apm>

The only nationally accepted industrial engineering honor society, APM membership is based on GPA. All students with junior or senior standing are considered. APM sponsors numerous events every year; highlights from last year include the IOE Bar Crawl and IOE t-shirt sales.

Engineering Global Leadership (EGL) Honor Society

<http://www.engin.umich.edu/students/support/egl/>

EGL is a five-year program that combines engineering curriculum with courses in the Business school and LS&A, culminating in a Bachelor of Science degree and Masters degree in Engineering. EGL is designed to help students improve the bridge between business and engineering in industry, as well as give its members a cultural background to work in an increasingly global market. EGL is no longer an IOE/ME only honor society, but its membership features plenty of IOEs.

Human Factors and Ergonomics Society (HFES)

<http://www.engin.umich.edu/soc/hfes>

Nationally, HFES is a professional society whose mission is to “promote the discovery and exchange of knowledge concerning the characteristics of human beings that are applicable to the design of systems and devices of all kinds.” The student chapter at Michigan leads multiple Center for Ergonomics lab tours and attends conferences throughout the year.

Institute of Industrial Engineers (IIE)

<http://www.engin.umich.edu/soc/iie>

Another society with links to a national professional society, IIE’s main goal is to “provide an awareness of the Industrial and Operations Department and its resources” at Michigan. The student chapter acts as a conduit to the local Detroit IIE chapter and a networking hub for all IOEs at U of M. IIE sponsors plant tours and features corporate speakers at meetings.

Institute for Operations Research & the Management Sciences

<http://www.engin.umich.edu/soc/informs>

Outstanding Multicultural Industrial Engineers (OMIE)

<http://www.engin.umich.edu/soc/omie/>

Water Cooler Talk: Internships

By Sarah Zarowny

September has come and gone and now that we’re all back enjoying some coffee in the IOE commons, it’s time for that favorite topic of conversation – what did you do this summer? For engineers, this question really means, “Where did you intern this summer? How sweet was your internship compared to mine?”

Internships are judged on two main categories: (1) Prestige of company and (2) location. Other factors, such as department, projects that you did, company perks, etc., may be discussed, but really, these items don’t matter because you can bluff them. Maybe your project was super hard and you worked 12 hours every day, or maybe your project took 2 weeks and the rest of the time you picked up coffee. The fact of the matter is, once you start talking about what you did, nobody knows what the heck you’re talking about.

So if you wanted to make up the ideal internship to tell your acquaintances about, what would it be? You’d probably want to say you worked for GE, because Michigan engineers love GE and vice versa. Also, GE has so many business units that if the person you were talking to happened to also have worked for GE over the summer you could just play off that you worked in a different unit. For location, you’d probably want to go with New York. Or overseas. However, I don’t recommend putting the two together because I’ve never heard of GE having internships in NYC or in another country. But if they did, and you had one, you would win.

But for now, it’s probably time to put aside fond memories of working only 40 hours a week and to start paying attention to the class you’re sitting in.

S.C. Johnson –Quality Assurance Internship Review

By Jevon Reynolds

My summer internship with S.C. Johnson in Racine, Wisconsin's Waxdale plant was my very first so I don't have any other comparable experiences. However, I will say that I was impressed with the amount of organization the company put into the internship program (e.g. intern events, housing accommodations). S.C. Johnson is a family-owned company and their dedication in making interns feel at home definitely showed just that.



After a few initial projects which served more or less as a gradual introduction to the company, I worked on a couple of more in-depth projects that allowed me to apply principles learned in class (e.g. quality assurance, LEAN manufacturing, savvy MS Excel skills). It was very satisfying to see my expensive tuition being put to good use outside the classroom.

SC Johnson
A FAMILY COMPANY

Overall, I had a very positive experience with S.C. Johnson. My only qualm would be the bottom-heavy workload nature of the summer (I had quite a bit of free time on my hands in the beginning). However, I heard of more evenly distributed workloads for some other S.C. Johnson interns so the balance is dependent on what's going on in a specific department at the time. Lastly, I have to admit, while non-work related, the best thing about the experience would have to be the awesome apartment complex in downtown Milwaukee in which all the interns were housed. I'll miss you, Jefferson Block apartments – you'll never know how much you meant to me...

Deutschland 2006

By Kristina Behrens

This summer I worked at an iron foundry in the tiny town of Jünkerath, Germany. I was hired as a process engineering intern and given a summer goal of increasing the efficiency of the foundry's molding shop by 10%. At first this seemed like quite a daunting task, considering I didn't know the first thing about foundries. The fact that the internship was to be conducted entirely in German was also a bit intimidating. Sure, German is my minor and I've been to Germany on multiple occasions before, but being able to order *schnitzel* and *bier* is a far cry from having to single-handedly come up with a solution to the foundry's efficiency problem – in German.



Life in small town Germany was certainly... different. Leaving the hustle and bustle of the Chicago metropolitan area for a country town of 3000 people definitely required some adjustment. Roughly the size of Montana, Germany is not a very large country, but the nearest city was a two-hour train ride away. Although the rural nature of the region was frustrating at times, I eventually grew to enjoy the peace and quiet of the country life.

While the small town atmosphere was fine for the weekdays, weekends were an opportunity to escape to larger cities across Europe. During my three months there, I managed to travel to a different city every weekend. In addition to weekends, I was given two weeks off, thanks to the Germans' love of their vacation time. Within Germany, I visited Berlin, Würzburg, Munich, Stuttgart, Hamburg, Dresden, Baden-Baden, Bonn, Cologne, Düsseldorf, Essen, Münster, Frankfurt, and Trier. Trips into foreign countries included Belgium (Brussels, Antwerp, and Bruges to be exact), Amsterdam, Milan, and Paris. Weekends were packed and there were so many sights to cram into two days that I would return to my apartment every Sunday evening unfaithfully exhausted but wishing that I had had more time. The World Cup only added to the thrill and gave the major German cities a new atmosphere of excitement.

Being able to work abroad and to visit so many different places in such a short time span was truly a memorable and life-changing experience!

Why Studying Abroad Should be Required

By Tiger Li

Let me start by saying it was the best summer of my life. A few months ago I would never have argued for anything like this, but now I dare each and every one of you to go abroad and not have a good time. Perhaps I am too presumptuous – maybe a little biased from my own experiences. But consider the logical argument for studying abroad: first, you will love the new surroundings. The culture, the language, the food – everything is novel and refreshing. I had no idea how sick I was of the Midwest until I left it for a good few months. Second, you will meet tons of people. I spent my summer in Shanghai and met plenty of students just like myself. Being in a foreign place together builds lasting relationships – now I have new friends at colleges from coast to coast. Third, you will come back with valuable experience. The economy is more and more global every day, and companies welcome diversity of thought and experience. Lastly, and perhaps most importantly, you will never have so much fun and earn college credit at the same time. Sure I spent plenty of time with my materials science book, but my experience was definitely more like a vacation than anything else.

So this is my case for making study abroad a requirement at this school. Of course, this will probably never happen, but I still recommend everyone take the opportunity if they have it. Just ask me or anyone else that took the chance – I bet they don't have any regrets.

Enjoy College Now, Work Awaits

By Bill Muscat

Over the past summer, I had the opportunity to work in a summer internship on the East Coast. I'm pretty sure my IOE experience is comparable to a lot of others with the exception that I learned one major thing that I thought fit to share with all of you fine people: it's much better to be in school. I'm sure a lot of you are saying, "Wow, what an insightful comment," and you'd be right. However, I want to elaborate a bit and write a really good article, so I'll explain.

My summer internship was great, hands down. I had the opportunity to do many exciting and wonderful things. I learned so much about being in the corporate world, networking, actually working, living on the east coast (in New Jersey), and about people in general. I would describe my experience as one that will help me in my career and that I'm very happy about. I would even go so far as to say it was probably the best summer of my life. That being said, an epiphany occurred to me while I was dancing during a rain-delayed football game with 20,000 of my closest friends, in the largest stadium in the country watching the greatest football team in the country. There is no other place in the world where I'd be able to do that, except for here in Ann Arbor in this great university. College is amazing, and I don't really need to tell many people that, but it is.

The company I was working for was L'Oreal, and I really had a wonderful time there. L'Oreal is a great company to work for, and I had nothing but good experiences. They actually had a Six Flags day where the company took care of tickets, paid our wages for the day, and even bought us dinner. The other interns and I got there at 10 am to open the gates, we hit basically every major ride, and then closed the park at 10 pm that night. My internship with them allowed me to experience New York City (I went there something like 12 times), Philadelphia, the Jersey Shore, Baltimore, and even Boston. I got the opportunity to watch the 4th of July fireworks on the East River, go up into the Empire State Building, and see the Liberty Bell all in one day. People reading this from the East Coast will say that those things aren't really that big of a deal, but for someone that has never had that opportunity, it was in one word, awesome.

Nevertheless, after my return to Ann Arbor, I realized how much I miss the small things. These things include how incredible it is to not have to get up early on a Friday, or sitting outside at Dominick's with friends. Starting the wave during football games in the student section on Saturday, being able to see Wynton Marsalis for \$10 at the Hill (half priced ticket sales), and the student society bar crawls are all benefits to being a student that you won't find in the real world.

Some might say that getting paid for your work is the benefit to being out of school, and that certainly is true. It was wonderful to be rewarded for my hard work with something other than a grade. I feel, however, that I can say the money I paid to go to college was well spent, and I am certainly going to make the most of it.

What I'm really getting at with this article is enjoy your time here, and that's such a cliché thing to say, but it really is true. My internship this summer prepared me for a lot of things after school and I am certainly looking forward to this life, but it also has helped me prepare *for* school. I am going to have so much more fun, and enjoy my senior year so much more because I realize what a great opportunity college is and how truly precious it is.

Summer Job Listing

Name	Work	Job Title	Work Location
Alejandro Riera	A.T. Kearney	Business Analyst	Chicago, IL
Kok Keng Goh	Alcoa Wheel Products	Product Development Intern	Cleveland, OH
Dan Springer	Alticor, Inc.	Central Engineering Intern	Ada, MI
Tom Steiner	Alticor, Inc.	Logistics/Warehousing Intern	Grand Rapids, MI
Eric Wu	Aprotech Corporation	Marketing and Research Intern	Lawrenceville, NJ
Ed Hegedus	Automotive Components Holdings	Engineering Intern	Plymouth, MI
Miranda Olds	BorgWarner	Manufacturing / Design Intern	Ningbo, China
Audrey Dulude	Caterpillar, Inc.	Manufacturing Intern	Peoria, IL
Franklin Jen	Chevron Corp.	Facility Engineer	Bakersfield, CA
Paul Gunnels	Chicago Transit Authority	Finance/Budget Intern	Chicago, IL
Steven Agacinski	Cordis Corporation, Johnson & Johnson Co.	Summer Consultant / Supply Chain Intern	Miami, FL
Carolyn Bertelsen	DaimlerChrysler	Lean Manufacturing Facilitator	Detroit, MI
Kristina Behrens	Demag Ergotech	Process Engineering Intern	Juenkerath, Germany
Fabian Chan	Deutsche Bank AG	Global Markets Summer Analyst	Hong Kong
Brian Nichols	Deutsche Bank, Investment Banking IT	Business Analyst	New York, NY
Rachel Kahn	Fidelity Investments	Technical Writer Intern	Covington, KY
Renee Sloan	GE	Information Management Leadership Intern	Cincinnati, OH
Maureen Brennan	GE	Intern	Erie, PA
Ashley Weston	GE Aviation	Environmental Health & Safety Intern	Cincinnati, OH
Matt Cooper	GE Healthcare	Lean Manufacturing Team Member Intern	Milwaukee, WI
Yuliya Polyachenko	GE Healthcare	EID Intern - Lean Leader	Waukesha, WI
Justina Chiang	GE Healthcare	Global Logistics - Transportation Analyst	Waukesha, WI
Alex Wang	GE: Oil & Gas	Parts Analyst for Services	Oshkosh, WI
Brian Rumao	General Motors	Manufacturing Intern	Ypsilanti, MI
Diego Soto	GM	Engineering Intern	Romulus, MI
Kari Birchman	GM	Manufacturing Intern	Warren, MI
Moncia Madrid	GM	Manufacturing Intern	Lansing, MI
Mark Chagot	GM	Production Supervisor	Grand Rapids, MI
Kristin Berndt	GM	Intern	Parma, OH
Tim Wagner	Greatland Corporation	Business Process Intern	Green Bay, WI
Yoko Konishi	Honda of America Mfg., Inc.	Student Associate/Purchasing	Raymond, OH
Chirag Jain	ICI PLC Paints - North America	Supply Chain North America Intern	Cleveland, OH
Sara Schulze	Intel Corporation	Northwest Packaging and Distribution Intern	Portland, OR
Chris Burrows	Lehman Brotherse	Hedge Fund Analyst Intern	New York, NY
David Wu	Levi Strauss & Co.	Summer Intern	Shanghai, China
Katherine Mullen	Liberty Mutual Insurance	Loss Prevention Consultant Intern	Wausau, WI
Nathan Gelino	NASA	Safety Engineer	Kennedy Space Center, FL
Brandon Barnett	Parson Brinckerhoff - O'Hare Modernization Project	Intern - Administrative Assistant	Chicago, IL
Samantha Jarema	Pfizer Global Research and Development	TMI Consultant	Ann Arbor, MI
Lydia Dobson	Procter & Gamble	Manufacturing Intern	Green Bay, WI
Anay Shah	Procter & Gamble	Product Supply & Brand Management Intern	Cincinnati, OH
Troy McNally	Regional Steel Distribution Center of Michigan	Operations Intern / Logistics Supervisor	Holt, MI
George Hart	S.C. Johnson, Inc.	Logistics Engineering Intern	Racine, WI

Michael Voice	Schlumberger	Field Engineering Intern	Laredo, TX
Tiger Li	Shanghai Delphi Dynamics and Propulsion Systems	Industrial Engineering Intern	Shanghai, China
Amanda Kandt	Stryker Medical	Manufacturing Engineering Intern	Portage, MI
Matthew Raubinger	Tank Automotive and Armaments Command	Industrial Base Intern	Warren, MI
Rob Mersereau	Tenneco Automotive	Lean Manufacturing Intern	Wissembourg, Alsace, France
Jin Wei (Jane) Ni	The Boeing Company	787 Global Logistics Industrial Engineering Intern	Everett, WA
Liz Holdsworth	The Boeing Company	Value Stream Alignment Intern	Renton, WA
Nauman Saeed	The Boeing Company	Safety Operations Intern	Houston, TX
Eugene Epshteyn	V.I.P. Commodities	Point Clerk	New York, NY
Yat Chiu Yeung	Volkswagen Production	Planning Intern	Shanghai, China
Bridgette Kapets	Walt Disney World Co.	WDW Industrial Engineering	Orlando, FL
Suzannah Merte	Walt Disney World Co.	Work Force Planning and Analysis Intern	Orlando, FL
Zach Shoup	Windquest Companies Inc.	Manufacturing Engineer Intern	Holland, MI
Carla Sleeper	WW Grainger	Methodology Intern	Lake Forest, IL
Feifei Hu	ZS Associates	Operations Research Intern	Evanston, IL

Interview Season

By Alex Wang

Interview season is underway, and many of you have probably interviewed with several companies already this week or have some coming up. Here are some helpful hints and words of advice that I've come across or learned along the way (mainly my friend Samara Mejia – she's amazing in interviews) to help you clinch that second interview or job offer:

Practice Makes Perfect – Just like anything, you should always practice. This ranges from going to any interview you can obtain even if you're not that interested to having graduated friends pseudo-interview you. Benefits? You gain confidence and become more comfortable with the interview process in general. More importantly, you get a better idea of what questions companies ask and can therefore prepare more effectively for the next interview.

Background Checks – Know the company you're interviewing with whether or not it's for your dream job or if it's a practice interview for the next week when you actually do interview with your dream company. Some recruiters will actually ask you what you know about the company, and you don't want to be caught off guard! Carmax asked me this, and I knocked their socks off by talking to them about recent Carmax developments that were in the news just a week prior. This knowledge can also help you to understand the industry in general and the culture of various companies.

Confidence Is Key – From the time you first greet the recruiter to the time you leave that interview room, you want to exude confidence even if you're sick or tired. Even if you've driven 20 minutes from a 3 hour service project in Ypsilanti, had to park illegally in the Blue Lot, and had to run to the interview room to be on time, you can't let that show because what they expect is grace under pressure. Don't hesitate to start answering after they ask you any questions! Waiting too long will raise red flags, and it'll show a lack of preparation. Also, no crying! Well, afterwards you can.

Reciprocate – Remember, although they're the ones behind the table taking notes, you're interviewing them as well. Many people take notes during the recruiter's brief 5 minute introduction about themselves and after their interview when they're answering your questions. Come prepared with questions that are personal to you! You want to make sure that company fits your needs. You ARE going to be working them for awhile (hopefully). Also, it helps with developing a rapport and networking for the future.

Sell Yourself – Ultimately, you're giving a business pitch as to why a company should hire you. Pull anything out of your arsenal to make that happen. Butter them up while still being sincere. Make yourself look good without seeming too cocky. If you don't have much experience, try making little situations seem bigger and more influential than they really are. If you can sell yourself well, it won't matter if your GPA is mediocre or abysmally low (well, I guess there's a fine line for that). Anyways, with all these in mind, you're well on your way to a great interview! Good luck, and be sure to credit me with all your success in the future!

A Different Application of Lean/Six Sigma Practices

By Renee Sloan

Ever wonder how Lean and Six Sigma principles are used in the real world? Or how they can be applied outside of manufacturing? This summer I had the opportunity to do an internship with General Electric as part of their Information Management Leadership Program. That may sound a bit strange seeing as though I am an Industrial Engineer by academic standards, but I thought this would be a great opportunity to broaden the scope of my training and learn how to apply the knowledge I have gained from my classes in a field other than manufacturing. I didn't expect, however, that I would have so much opportunity to use my IOE background to make improvements in processes involving Information Technology.

Every intern at GE is provided with an assignment leader who serves as their mentor throughout the summer. Fortunately for me, my assignment leader was a Black Belt; this was just the opportunity I was looking for! General Electric is one of the most widely recognized companies for having adopted Six Sigma strategies. Seeing as though I had yet to take a Six Sigma course, I thought this would be a great place for me to jump start my learning through application.

The first hands-on encounter I had with Lean and Six Sigma at GE was being able to sit in on a Lean Event. A Lean Event, as it goes at GE, is a week long series of intense 9 to 5 meetings that aim to analyze a single process in great detail in its current state and determine areas that can be improved by using Lean and Six Sigma tools and cutting out the waste. The most empowering aspect of the event, in my mind, was that individuals from all parts of the process were engaged together in these meetings.

This ensured that no details in the current process were overlooked and that hand-offs from one step to the next would be accurate and run smoothly. After areas of improvement had been "captured" using the lean tools, a simulation of the process as it would be in its new "future state" was conducted to measure the results of the improvements.

The second encounter I had with Lean and Six Sigma allowed me to do more than simply sit-in on an event; I was actually able to lead my own mini-Green Belt project. I was given a Green Belt training book, a process to analyze and improve, and was set free to go through the DMAIC (Define, Measure, Analyze, Improve, Control) process myself. I won't get into the gritty details of the process, but it was basically an internal way for employees to order software that would ensure the software was compatible with the GE image (pre-installed software and applications) and would also serve to keep track of the number of licenses owned in order to protect the company from lawsuits by software companies. Through using the DMAIC process and making the necessary improvements in the process I was able to decrease the number of defects by over 30%.

I know a lot of students are searching for internships either now or in the near future. The advice I would like to give you is to not be scared to try applying your IOE knowledge outside what's thought of being as being the traditional career path for an IOE. Our major is very flexible applicable and allows us to contribute and excel in many different fields. Further more, as far as Lean and Six Sigma, the methodologies are becoming more and more widespread and companies are willing to pay big bucks to people who have prior knowledge of the tools. I encourage you to take the Lean (IOE 425) and Six Sigma (IOE 461) courses offered here within our department if process improvement seems at all of interest to you! Some final advice: try to get some Lean/Six Sigma experience.

Engineers Cooking??? Is it Possible?

By Miranda Olds

As engineers, we barely have time to brush our teeth, let alone cook gourmet meals. However, if you do find yourself with about 30 minutes, you can cook an amazing meal. Indulge yourself this October with a Spinach-Stuffed Portabella Mushroom. You can make this as a side dish, or it can be the entrée, and you can serve it with a salad or something else on the side.

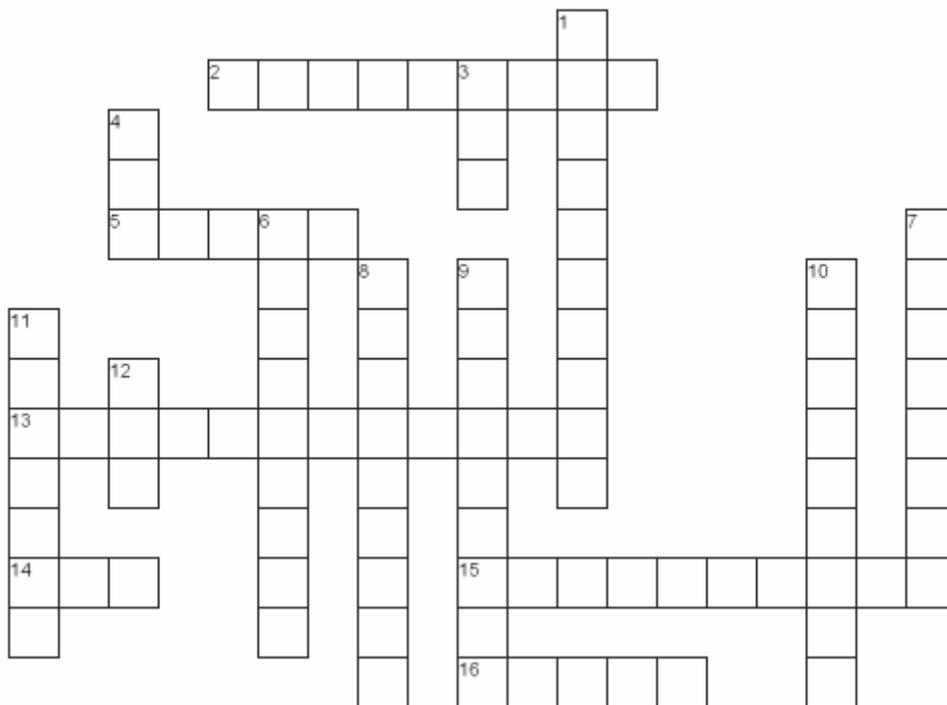
Ingredients (amounts may change depending on mushroom size):

One pack (thawed) frozen Spinach
4 medium sized Portabella mushrooms
1/3 Cup Fat free Yogurt
Tablespoon bread crumbs
1 onion
1/2 package Tofu (Optional)
Parmesan cheese



- 1) Pre-heat oven to 350°.
- 2) Thoroughly wash mushrooms, stick on baking pan, and bake in oven for 5 minutes.
- 3) Take mushrooms out of the oven, cut off mushroom stems, and set aside mushrooms.
- 4) Cut the onion and mushroom stems into small pieces. Sauté the onions for about 5 minutes (until onions are translucent). Add the mushroom pieces and sauté the mixture for another 5 minutes.
- 5) Meanwhile, mix the spinach, yogurt, bread-crumbs, and tofu (cut tofu into small cubes) in a bowl.
- 6) Stir in onion/mushroom mixture.
- 7) Scoop an even amount of the mixture into the mushroom caps. Sprinkle a little bit of parmesan cheese on top of each mushroom/mixture.
- 8) Bake at 350 ° for about 15 minutes.
- 9) Enjoy! (But be careful, it will be hot!)
- 10) Enjoy! (But be careful, it will be hot!)

The Backpage. Go Tigers.



www.CrosswordFeaver.com

ACROSS

- 2 The Highest Level of Six Sigma
 5 New Ali G Movie
 13 Colors, and a Sandwich Shop on S. University
 14 National IOE Society
 15 The Study Of Work and Human Factors
 16 18+ (for women) Club in AA

Crossword brought to you
by Brian Winokur

DOWN

- 1 It Makes Noises on North Every 15 Minutes
 3 We Ride it To Get to Class
 4 What Every Senior is Looking For Right Now
 6 IOE Honor Society
 7 The Team We Played Last Week
 8 He Not Great, But will take him (Our QB)
 9 Spooky Holiday
 10 Its Great, To Be, A Michigan
 11 A Symbol of 9D
 12 A Sweet Treat made from 11D

Blueprint Editors:

Franklin Jen (frajen@umich.edu)
 Brian Winokur (bwinokur@umich.edu)

Note: The opinions expressed herein do not necessarily reflect those of the Industrial and Operation Engineering Department at the University of Michigan—Ann Arbor. Any questions or comments should be submitted to IOEBlueprintGroup@umich.edu

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