

# Industrial Blueprint

-The IOE Student Newsletter-

Volume 21, Issue No. 2

Brought to you by APM and IIE

November 2007

## Undergraduate Walk-In Counseling Hours

### Professor Yili Liu (Program Advisor):

By appointment only  
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### Brian Rumao (IOE/EGL Peer Counselor):

Mondays: 9:00am-10:30am  
Wednesdays: 9:00am-10:30am, 3:30pm-5:00pm  
Fridays: 9:00am-11:30am  
In 1749 IOE  
E-mail: [brumao@umich.edu](mailto:brumao@umich.edu)

### Barbara Fordyce (IOE/EGL Peer Counselor):

Mondays: 1:30pm-5:00pm  
Tuesdays: 10:30am-12:00pm  
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### Steven Agacinski (IOE/EGL Peer Counselor):

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### Wanda Dobberstein (IOE Undergraduate Advisor):

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## *A Few Words From the Editor . . .*

It's November, which is by far my favorite month. My birthday aside, November contains Thanksgiving break. A few days away from class allows to re-energize and re-focus as hit the home stretch of the semester.

Speaking of class, who else is getting tired of 1610 IOE? In IOE 333, Yili told us all about the design flaws in the lecture hall—seats that lack armrests, desks that are at an uncomfortable level, and granite-colored surfaces that encourage distracting glare. And have you ever tried sitting in that small row of three chairs on either side? The desks are angled away from you. Adios, pencil. To improve 1610 immediately, let's get some WD-40 on those chair hinges. Forget your senior design at General Motors; we've got a much better improvement opportunity right here.

While you're enjoying the pleasures of IOE 1610, check out this action-packed issue, filled with three course reviews, an internship review, and some good info about stress and caffeine. Also check out the improved crossword—we fired the old crossword editor and brought in new talent this week.

Finally, we send our best to Lloyd Carr. We love our Carr but we're definitely ready to trade in for a little "Les Miles" ...

—Brian Rumao

## Upcoming Events

November 21 (5pm)	Thanksgiving break
November 26	Undergrad class registration begins
November 26	Winter Traditions Festival, 6:30pm—8:30pm, Chesebrough Aud.

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/>

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## What’s that website...?

By Punit Mattoo

Sure, the above group websites provide a wealth of information to help you get around the department and more involved with your university, but there is still a litany of helpful UM websites that can make your life a lot easier and enjoyable. Some of them you knew about, but hopefully a few provide services that you always complained weren’t available as part of those tuition payments that bring your bank account balances to depressingly low levels. That’s why we’re here for you.

### Remote Desktop Instructions

<http://www.engin.umich.edu/caen/network/connect/termserv.html>

It’s cold outside, which means you have yet another excuse not to make that trip over to the UGLi basement or Duderstadt center to do work in Minitab or any other CAEN software whose price tends to have one too many zeros attached to the end. Fret not, since you can access these programs from home. This site explains Remote Desktop instructions so you never have to leave your couch to access your CAEN account. Your body will thank you later.

### The Filter

<http://www.michigandaily.com/thefilter>

Blatant self-promotion here since I write for this site, but the Michigan’s Daily’s arts blog provides some helpful information regarding Ann Arbor events and other national stories that have some sort of tie to our little city that can easily be dropped into conversation as a diversion when you realize your friend has been complaining about job searches for two straight hours. The other section blogs provide frequently updated material as well.

## Know your student groups

### *National Society of Black Engineers (NSBE)*

By Jasmine Way

The National Society of Black Engineers is one of the most meaningful organizations I have gotten involved with on campus. Its mission is to increase the number of culturally responsibly black engineers who excel academically, succeed professionally, and positively impact the community. NSBE is one of the largest student-run organizations in the nation, with over 20,000 members, 268 collegiate chapters, 17 NSBE junior chapters and 50 professional chapters. Our borders span not only states, but countries. The University of Michigan chapter has won many distinctions. In 2006, it was named Distinguished Chapter of the Year, making our chapter the best in the nation. Some of the signature programs for this year include the Guaranteed 4.0 Program, the NSBE Corporate Mentoring Program, and the Ypsilanti High School PCI Partnership.

Want to get more acquainted with what NSBE does? Come out to our next general body meeting on November 30<sup>th</sup> at 5:30 p.m. in the Chesebrough Auditorium. Eli Lilly and Company will be speaking on the importance of corporate diversity. Now more than ever, diversity is becoming a core value among many businesses and corporations. From small firms to Fortune 500s, companies are seeking and recruiting a more diverse work force. Through this Corporate Diversity event, Eli Lilly and Company, the Multi-cultural Engineering Program Office and the U of M Chapter of National Society of Black Engineers, would like to show attendees how diversity in the workplace has gone from just a recruiting process to the development of diverse talent with the purpose of making the American corporation stronger, more competitive, and appealing to a global market.

## Senior spotlight

*Barbara Fordyce*

### *Future plans?*

I have no idea yet! Thank goodness I'll be around one more year for my Masters to try to figure that out. As of now, I'm leaning towards consulting or an industry position which is involved with sustainability in some way.

### *Favorite IOE class?*

IOE 310 with Amy Cohn, although I really liked VBA (IOE 373) also, but it was so much work!

### *Favorite non-IOE class?*

Psych 121: The Mind, the Brain, and Violence. It was a class about psychological disorders people have that cause violent tendencies. So we learned about mass murders, people with multiple personality disorder, and psychopaths. It was a crazy class but super interesting!

### *Favorite IOE professor?*

Pat Hammett. He's realistic and of course the online lectures and mini-sessions are awesome!

### *Favorite IOE GSI?*

This is a toughie.....I think my favorite IOE GSI I've had is Tim Lortz. He's pretty sweet. But I have heard lots of good things about the new GSI's this year too :)

### *Favorite spot in Ann Arbor?*

I love being outside and I love sports....so what better place is there than the Big House?

### *Favorite North campus place to study?*

3rd floor of the Dude, veer right :) Also, I really like Espresso Royale on Plymouth because I don't really see anyone I know so I don't get distracted.

### *Favorite Central campus place to study?*

Basement of the Union for sure. I used to like the basement of the UGLi but I can't go there anymore because my computer freaks out when I go there now.

### *Advice for the rest of us?*

The more internships I do, the more I wish I would have focused on learning the material for application purposes rather than grades. Also, get involved. You meet so many interesting people and companies love it. Join EGL!



## What you missed at Tech Day

By Laura Brunner

Every year high school students hoping to become a part of the UM College of Engineering get to know our campus through Tech Day. Tech Day is a program sponsored by the college for high school students to not only get to know the campus but also to become familiar with the different engineering disciplines and different organizations on campus. This year Tech Day was a success due excellent planning by the Tech Day planning team and organization involvement.

The Tech Day planning team spends the beginning of the school year planning out this event which brings close to 1,000 students and parents to the university for one day. The Tech Day planners are undergraduate students who volunteer their time to set up Tech Day. These students spend a hectic November making sure everything from food to a North Campus tour to student organization presentations are set up for these interested high school students. This year the student volunteer coordinator did an excellent job of getting help from other volunteers who worked on Tech Day as student or parent group leaders, registration volunteers, and various other jobs such as decorating or clean up.

Student organizations also helped in showing why students should come to UMich. Different organizations and university groups set up tables in EECS or Pierpont providing not only information about the group, but also an engineering-related activity for the high schoolers. Organizations were eligible for a \$500 prize based on their creativity and student interest in their activity. Last year IIE won this prize for their partner blind fold game which exemplified the importance of communication between manufacturer and designer. Other interesting activities were the edible aquifer from ASCE and the baking soda/vinegar water rockets from AiChe.

## Caffeine: My legal drug of choice

By Jossie Frankiewicz

“Hi. My name is [insert name here]. I am *addicted* to caffeine.” Now, how many people do you know who could say that? Or rather—honestly now—how many do you know that could *not* say that? As a disclaimer, I am myself an abuser of caffeine. In fact, there is a Starbucks Venti Sugar-Free Hazelnut Café Americano with room sitting next to me right now. So, I am not trying to get you to kick your caffeine habit, I just want to be informed about this unregulated, psychoactive, and widely abused drug. I was just curious about caffeine and thought you might be, too.

What does caffeine do to your body? Well, we all know it keeps college students awake in lecture and alert while studying. But there are also many negative side effects of this drug. Too much caffeine causes a litany of not-so-nice side effects: dependency, nervousness, irritability, anxiety, tremors, twitching, insomnia, headaches, breathing problems, heart palpitations, ulcers, esophagus problems, and reflux. If you are young (which I assume you aren't since you are reading the Blueprint) watch out for the wives' tale (or truth?) that caffeine stunts growth. Is there a deadly dose?? Yes, but don't worry it is somewhere around 80 to 100 cups in a very short time for most adults.

But it's not all that bad, right?? Correct. In moderation, it also has other beneficial effects. It often temporarily improves alertness, memory, the performance of athletes, and decreases drowsiness. It has also been shown to decrease the risk of heart disease. And guess what, it does help your body to absorb pain killers and make them work faster. Pretty neat, eh?

Now, when would you want that Advil work faster? When you have a caffeine headache of course! That's right. Be careful if you decide to go cold turkey with your addiction. There are many withdrawal symptoms associated with caffeine. The crashes and symptoms include: headaches, irritability, stomach aches, lack of concentrate, and even depression symptoms. So be careful if you're thinking about quitting. Maybe it is best to cut down first, and wean yourself off the stuff. What is a good alternative? Actually, surprising to many, *water* has been shown to be a great alternative to caffeine dependant people. It also increases alertness and is overall better for your body. No-brainer there.

So, now that I've told you a little bit of what you could yourself find, don't get scared. I'm admittedly not giving up my miracle drug any time in the near future. I love my Americanos and Macchiatos, and who honestly doesn't love the 20 cent cups of Starbucks in IOE Commons?? This was just a little bit of knowledge for you to think about as you pound your next Red Bull or sip on that \$2 Espresso Royal latte next Wednesday.



## Want to reduce your stress?

By Rebecca Britten

The Counseling and Psychological Services (CAPS) on the 3<sup>rd</sup> floor in the Union has numerous resources that can be beneficial in the reduction of stress or addressing other emotional health issues. There are academic success workshops, relaxation training, discussion groups, and individual counseling available with the sole purpose of helping you take care of your emotional well being. Both the workshops and relaxation training are on a drop-in basis with no preregistration and are open to all students. The discussion groups typically require a pre-group interview with the group coordinator. Individual appointments are typically scheduled upon completion of an initial computerized questionnaire with a 2-3 week wait for an appointment. However, emergency appointments are also available. Current scheduled workshops and groups are listed below. More details can be found at their website: <http://www.umich.edu/~caps/>

### Academic Success Workshops:

Overcoming Procrastination: 12:15 – 1PM Thurs 11/15, Tues 12/4

Tackling Test Anxiety: 12:15 – 1PM Wed 11/28, Thurs 12/6

Relaxation Training: 12:15 – 1PM Every Friday

### Discussion Groups (See website or call for details):

Building Connections: An Undergraduate Psychotherapy Group

Coping with Emotional Distress

Gay, Bisexual, and Questioning Men's Discussion and Support

Graduate Women

I Love My Body

Non-Traditional Women Students

Nourish YourSELF 2007! A Lunch Series for Women of Color

Overcoming Barriers to Academic success (Graduate Students)

Overcoming Perfectionism

## Write for the Blueprint!

We are accepting submissions for the December edition. Course reviews, internship reviews, witty articles, or anything else, we'll take it. See your name in print and stick it on your fridge. Email your submission (in Word format) to IOEBlueprintGroup@umich.edu by 12/5/07.

## Detroit Diesel Internship Review

By Jaclyn Richardson

Until last summer, I wasn't quite sure what industry I wanted to join, or what direction I wanted to pursue with my career. This was my first internship so I really wasn't sure what to expect and quite honestly I was very nervous. I was especially leery of the automotive industry in Detroit. The Big Three are always in the news and, as you can expect, most of this isn't positive. However, after my experience at Detroit Diesel this summer, I had a change of heart.

This summer I worked for Axle Alliance Company, which is part of the Detroit Diesel campus located in Detroit, Michigan as a Material Planning and Logistics intern. They produce front, single rear, and tandem rear axles. The department I worked for was directly responsible for all ends of the supply chain. When I started my internship in May, AAC had just launched its new supply chain management system and I was made an integral part of the transition. My main responsibilities were monitoring the inventory in and out of the five warehouse facilities that AAC occupied. This included auditing the warehouses daily, writing orders for inventory to be sent to the lines, clearing up problems within the new warehouse management system, and other similar responsibilities. I was able to get a look at not only all aspects of the supply chain, but gained important hands-on experience on the plant floor as well. The time I spent interacting with floor supervisors and operators helped me understand the specific processes and a different side of the automotive industry.

Overall, I had an invaluable experience at Detroit Diesel. I was able to see all aspects of manufacturing and gained a good understanding on how all the pieces come to place. Working for Detroit Diesel not only helped me in my decision to stick with manufacturing as my career, but it led me to see that the automotive industry in Detroit is alive.

### About the company

Detroit Diesel is the leading manufacturer of on-highway medium and heavy-duty diesel engines for the commercial truck market. As such, Detroit Diesel is engaged in the design, manufacture, sale and service of these products, in addition to supporting alternative fuel engines and hybrid engine strategies for the marketplace. Offering a complete product line up from 170 to 515 horsepower for the on-highway market, Detroit Diesel supplies Series 60 engines on a worldwide basis and Mercedes Benz engines in North America.

### General Information:

- Company Name: Detroit Diesel
  - Facility: Detroit, Michigan
  - Founded: 1938
  - Employees: approximately 2,000
- Web Site Address and info source:  
[www.detroitdiesel.com](http://www.detroitdiesel.com)

## History 304 course review

By Ryan Ladomersky

People are often surprised with my answer to the question, “What was your favorite class at the University of Michigan?” Most people do not expect an engineering student to say, “History of the Pacific Islands,” but the class was about so much more than the title indicates. The professor, Damon Salesa, teaches students about the history of the Pacific Islands, and he also asks students to read all historical materials critically. The challenging issue with the history of the Pacific Islands is that much of it was written by Americans, Europeans, and other colonizing nations. For this reason, students must consider how different the readings would be if they were written by the native Pacific Islanders.

The class meets twice a week for an hour and a half, but most students get so wrapped up in discussions that the classes seem to go much faster. Some of the topics of discussion are early inhabitants of the islands, explorers, beachcombers, and nuclear testing. Students are assigned a reading for each time that the class meets. The class time is spent discussing the historical context and hidden meanings of the readings. Professor Salesa leads the first several class discussions, but each student is required to lead a class and write a short paper about the topic they presented. Also, there are four short tests, including a map test. The final assignment of the class is a five to six page paper about a Pacific Islands topic of your choice. Professor Salesa encourages students to find a topic that had a significant historical impact.

Professor Salesa is a very talented and engaging person who will challenge all students to try to understand several different viewpoints. Students come out of this class with a much better understanding of a mysterious region. Students also learn that they must understand the historical context of the documents that they are reading. Professor Salesa’s enthusiasm and unique teaching style make this a class that students from any major can enjoy.

## Accounting 471 course review

By Brian Rumao

Accounting 471 is an introductory level 3-credit course about financial accounting. No matter which career path you may choose, ACC 471 provides a solid basis for understanding fiscal matters.

The course focuses on the main elements of accounting: the balance sheet and the income statement. You quickly learn how to read and analyze corporate financial reports, as well as how to determine how well a company is really doing. Later in the course you study methods of accounting for inventory and depreciable assets. Remember IOE 201? Yep, straight-line depreciation and double-declining balance strike again. Additional topics include financing through bonds and investing in equities.

The course is designed to enable non-business students to obtain an understanding of business transactions and financial reports. I believe as long as you read the book and do the homework, you should probably earn at least a B. To sweeten the deal, if you have Jeff Williams as the professor, the book is completely online and free. Of course, you would probably spend that saved money at the bar, but after taking this course you may consider putting it in an IRA (Individual Retirement Account)!

## MSE 220 course review

By Zach Chen

If you’re still looking for a class to fulfill your non-IOE engineering course requirement, MSE 220 is something you might want to look into. The course, titled “Introduction to Materials and Manufacturing”, is divided into four roughly equivalent in length sections: metals, ceramics, polymers, and composites. Each section presents the same basic information about the material, focusing on why each material’s structure causes it to behave the way it does. Ever wondered why diamonds are so hard, or why ceramics are so brittle? You’ll find out in this class, along with other interesting facts about rubber balls, jumbo jet structures, and space shuttle tiles.

Prior knowledge of chemistry would be recommended, but the course doesn’t go too in depth in that area, so if you forgot all the chemistry you learned freshman year, you should still be ok. I took this class during spring term, so my experience is probably a bit different than most people, but to me the workload wasn’t overwhelming. Two homework assignments were due each week (one per week during fall or winter term), and there were two midterms and a final.

## MSE 220 course review, cont'd

When it comes to the actual material learned in class, I would say MSE 220 is more interesting than most of the other engineering classes I've taken. Whereas some classes teach you things that you might think have no practical application, it is easy to see how the coursework in MSE 220 would be of use in the real world for future materials engineers. However, while some topics in the course were interesting, the amount of depth that the professor goes into about each and every flaw in a crystal structure may result in you passing out on your desk. Fortunately, the textbook ("Materials Science and Engineering – An Introduction") is very descriptive and helpful, so you shouldn't worry too much about missing a couple lectures.

Although there might be easier classes to take for your non-IOE requirement, MSE 220 isn't too bad, and you do learn some cool stuff along the way.

## Changes to the CAEN Printing Environment

If you're like me, you have no clue what's going on with your printing account. Things have changed a bit this year, and so we've reprinted an email sent out at the beginning of the semester to help make sure that your tuition bill doesn't get a little too big this year.

- Different allocation of printing quotas for the CAEN printing environment -  
New CAEN printing quotas will be in place to provide continuity from the legacy printing environment to the new printing environment during the two year printing migration period. During this migration period, you will again have a 2500 page per term quota for the 2007/08 academic year for the CAEN printing environment. However, the quota is being split between the two printing systems:

1500 b/w pages on the legacy HP printers (default lab printers),

1000 b/w pages on the new Xerox printers (printing OR copying)

More information on your CAEN printing environment quota can be found at [www.engin.umich.edu/caen/printing/quotas.html](http://www.engin.umich.edu/caen/printing/quotas.html).

- Ability to self-fund printing above the quota for the CAEN printing environment (Xerox printers only) -

With the Xerox printers you will be able to print or copy above your quota for just \$0.03/page (note this rate is only valid on the CAEN lab Xerox printers and is separate from any ITCS printing rates). Printing charges above your printing quota are withdrawn from your Entrée Plus account balance, so you'll be able to add to your balance when you need to. More information on printing above your quota and checking your Entrée Plus balance can be found at [www.engin.umich.edu/caen/printing/xerox/quotas.html](http://www.engin.umich.edu/caen/printing/xerox/quotas.html). CAEN and ITCS printing balances can be checked at [www.engin.umich.edu/caen/printing](http://www.engin.umich.edu/caen/printing).

- "Swiping" your M-Card to release jobs to the CAEN lab printers (Xerox printers only) -

If you print to a Xerox printer, you must use the M-Card swipe on the Xerox printer to release your job for printing. Only jobs released to the printer will be counted against your quota (or Entrée Plus if your quota is exhausted). Jobs that are not printed are automatically deleted after a few hours. Instructions for using the M-Card swipe can be found at [www.engin.umich.edu/caen/printing/xerox/index.html](http://www.engin.umich.edu/caen/printing/xerox/index.html).

- Scanning pages on the CAEN lab printers (Xerox printers only) -

With the Xerox printers you will be able to scan pages to PDF and have them sent to your email address for free. Instructions for using the scanning feature can be found at [www.engin.umich.edu/caen/printing/xerox/scan.html](http://www.engin.umich.edu/caen/printing/xerox/scan.html).

- Optional PIN-based security on the CAEN lab printers (Xerox printers only) -

The new M-Card swipe Xerox printers have the ability to allow the use of a private printing PIN. Any print job tagged with a PIN can only be printed by entering that same PIN on the Xerox printer keypad at the time you swipe your M-Card. Instructions for using a printing PIN can be found at [www.engin.umich.edu/caen/printing/xerox/secureprint.html](http://www.engin.umich.edu/caen/printing/xerox/secureprint.html).

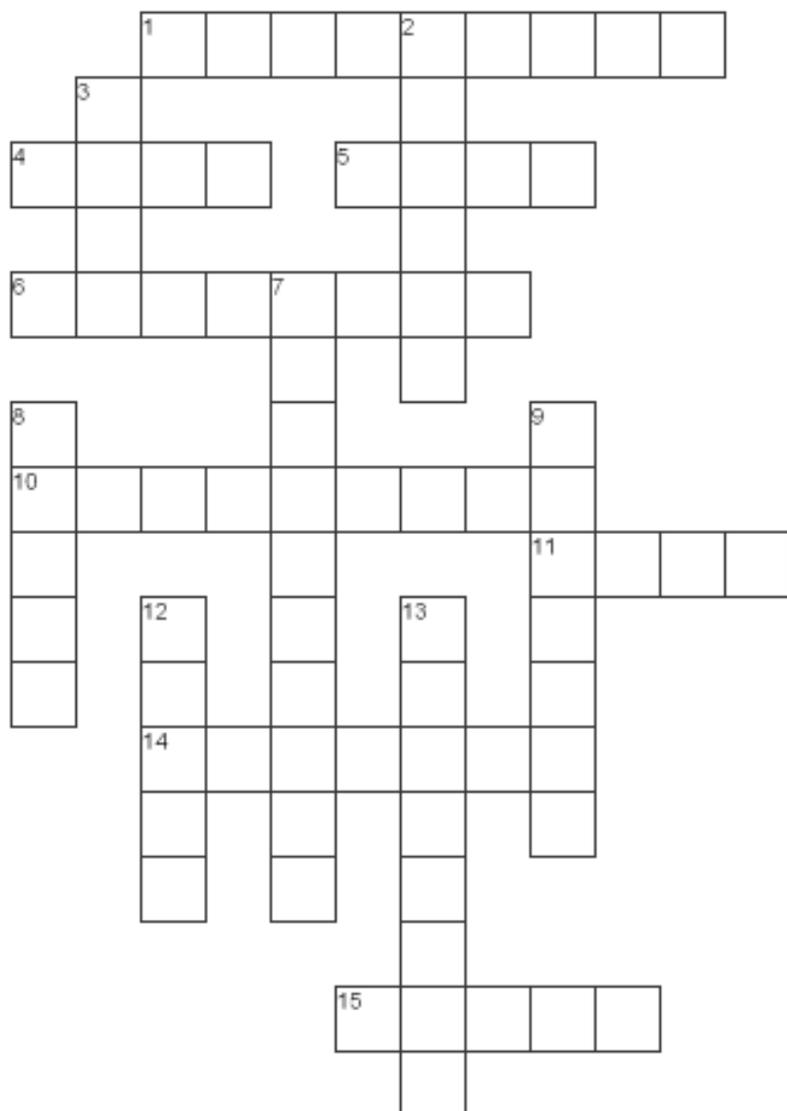
### Summary of Changes to the CAEN-subsidy for ITCS Printing

- Reduction in CAEN-subsidized printing quotas for ITCS-run Sites printers -

In each of the fall and winter terms CAEN applies a subsidy it receives from the College to cover some number of extra printed pages for each Engineering student that is over and above the ITCS Basic Computing Package (BCP) allocation. This subsidy has been reduced starting this fall to 200 extra pages of b/w printing and zero extra pages of color printing. Again, this number is extra printed pages above and beyond the 400 page b/w printing quota you receive from ITCS as part of your BCP. ITCS-run Sites printers can be found in the Duderstadt Center, ITCS Sites labs, Ross Academic Center, and Shapiro. In previous years, we had been able to set a high quota because the number of users who utilized the CAEN subsidy was quite small. Last year, we saw a large increase in demand in both fall and winter semesters for these resources (almost a 4x increase in costs and related volume used). To help balance the demand with the available budget we have had to make this quota subsidy reduction. More information on this subsidy to your print quota can be found at [www.engin.umich.edu/caen/printing/quotas.html](http://www.engin.umich.edu/caen/printing/quotas.html).

# The Backpage.

## Because you need something to boost your confidence



www.CrosswordNerver.com

by Stephanie Clarke

### Blueprint Editors:

Punit Mattoo (mattoop@umich.edu)  
Brian Rumao (brumao@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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### ACROSS

- 1 First word in IIE  
4 Popular undergrad/grad program  
5 The IOE building is on this avenue  
6 The colorful newspaper in the IOE lounge  
10 What engineers must heed to at all times  
11 Allowed 2500 pages of printing in these labs  
14 Southern state home to the number 1 IIE program  
15 Closest place to 1610 to pick up a Michigan Daily

### DOWN

- 2 Graduate advisor, Matt \_\_\_\_\_  
3 Convenience store in Pierpont  
7 Prof. Amy Cohn focuses on this type of research, also the topic of IOE 310  
8 Number of peer counselors  
9 Engineering event for high school students  
12 President of APM, or a large, striped feline  
13 This system can tell you when the blue bus is coming

### Win \$1000 from IIE

IIE student members are invited to create a video presentation that will excite high school students about the industrial engineering profession. The purpose of the contest is to promote the industrial engineering profession to high school students and teachers. It is sponsored by IIE's Industry Advisory Board.

Deadline is January 14, 2008

For more details, check out:

<http://www.iienet2.org/Details.aspx?id=10446>