

# Industrial Blueprint

-The IOE Student Newsletter-

Volume 20, Issue No. 3

Brought to you by APM and IIE

January 2007

## Undergraduate Walk-In Counseling Hours

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Mondays: 2-3:00pm & by appointment  
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E-mail: [yililiu@umich.edu](mailto:yililiu@umich.edu)  
Phone: 763-0464

### Steven Agacinski (IOE/EGL Peer Counselor):

Tuesdays & Thursdays: 12:00-2:30pm  
Wednesdays: 11:30am-12:30pm  
In 1749 IOE  
E-mail: [spagaci@umich.edu](mailto:spagaci@umich.edu)

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Tuesdays: 3:00-5:00pm  
Wednesdays: 10:30-11:30am  
Thursdays: 10:00-11:00am, 3:00-5:00pm  
Friday: 2:00-4:00pm  
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### Samer Saab (IOE/EGL Peer Counselor):

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### Pam Linderman (IOE Undergraduate Advisor):

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## Upcoming Events

February 1st	Engineering Internship & Co-op Fair
February 4th	SUPER BOWL XLI
February 24th —March 3rd	SPRING BREAK !!!
March 16th	Drop & Pass/Fail Deadline

## A Few Words From the Editor . . .

**B**ack into the swing of things we go! For some us, this is our last semester at the University of Michigan and we never got to see a win in a bowl game. Something needs to be done to wake up our coaching staff. Sometimes adjustments need to be made during the game instead of sticking with a game plan that the other team is exploiting. We continually get great recruits and have a winning regular season record, but our zone-block based running offense falls apart when teams have more than one week to prepare for a game against us. Lloyd, sometimes football is about being creative and outsmarting your opponent. I bet if a brick wall was keeping Lloyd from a touchdown, he would try to run through it, instead of over or around it.

But then there is always next year for the lucky ones that are continuing their fabulous education at this great University. I wish the best of luck with your studies and pursuit of happiness,

Sincerely,  
Brian Winokur

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/>

## Engineers Cooking

*Have you ever received a fortune cookie with the worst fortune ever, and wished you could come up with the fortunes on your own? Well now you can, with this great recipe on how to make your own fortune cookies! Makes a great present too!*

### Fortune Cookies

**Yield:** 18 cookies (serving size: 1 cookie)

1/2 cup bread flour (about 2 1/3 ounces)

1/2 cup sugar

1 teaspoon vanilla extract

2 large egg whites

Combine flour and remaining ingredients in a food processor; process until blended.

Scrape batter into a bowl using a rubber spatula; cover and chill 1 hour.



1. Preheat oven to 400°.
2. Cover 2 large baking sheets with parchment paper. Draw 3 (3-inch) circles on paper. Turn paper over; secure with masking tape.
3. Spoon 1 teaspoon batter into center of each of the 3 drawn circles; spread evenly to fill circle.
4. Bake one sheet at 400° for 5 minutes or until the cookies are brown just around the edges. Remove from the oven.
5. Quickly loosen the edges of each cookie with a spatula, and turn over.
6. Lay the handle of a wooden spoon and a prepared fortune along the center of 1 cookie. (Insert fortune if you want 7. too). Fold cookie over so the edges meet over the spoon handle; press edges together. Remove spoon.
8. Gently pull the ends of the cookie down over the rim of a small bowl (or jar); hold for a few seconds or until set.
9. Repeat procedure with remaining cookies.
10. Repeat procedure until all of the batter is used. Cool cookies completely; store in an airtight container.

# IOE 333 Course Review

By Inder Dhillon

IOE 333, engineering ergonomics, is the 3-credit component of the 4 credit ergonomic requirement for Industrial Engineering in the College of Engineering. It is taken in addition to IOE 334 (the laboratory component). Ergonomics is a subject that requires an extensive amount of memorization. The class has a course pack and a textbook, both of which are helpful components to the class. The majority of the material tested, however, is taken directly from Lecture. The professor, Yili Liu, is also the advisor for the Industrial Engineering department. He is a great professor, and presents the material in an interesting and meaningful way. This is one lecture session that you will want to attend.

To succeed in the class, go to all lectures and take careful notes. When studying for the exams, use the lecture notes and textbook material related to the in-class material. There is a great deal of memorization involved, but if one puts the time and effort in, they will be successful since the material itself is not difficult to understand. IOE 333 is a class that can be managed and boost your GPA if the effort is put in appropriately.

One further recommendation is to purchase the textbook online. There is an international edition of the text sold at Michigan. It is the same textbook, only paperback, and therefore saves you money.

# IOE 452 Course Review

By Alex Niebrugge

IOE 452 (Corporate Finance) is a class any IOE must take if they plan on or have any aspirations to work in a finance related job. The class is designed to provide students with an understanding of financial valuation, investments, risk-return tradeoffs, and capital structure decisions.

What does that actually mean? It means you'll understand more about the stock market, understand why businesses make decisions that they do based on NPV (net present value), learn about risk and return, and more financial stuff than you ever knew existed.

My class was taught by Volodymyr (Vlad) Babich. The Microsoft Powerpoint notes were given to you beforehand, and more or less he read directly from the slides. However, there were a few examples given in each lecture that were helpful on homeworks and tests.

The only downside to this class, however, is the case studies. Not because they are too difficult, but 2/3 of your case study grade is based on what you say in class while only 1/3 is based on the paper you write yourself. This leads to something just short of bedlam in class as each group tries to raise their hand higher than the other to participate in the discussion.

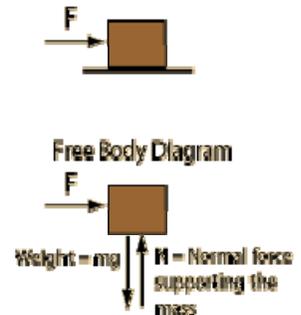
Overall though, this is an incredibly helpful and useful course that will help you not only learn about the business world, but will be helpful in interviews as well. I took this course and IOE 453 and I found 452 to be more interesting and useful. So, the three reasons you should take this course are: it will help if you are pursuing a career in finance or one in another business area such as consulting or strategic planning where you will need to understand what is driving financial choices in your company, it isn't incredibly difficult, and the stuff you learn will help with your personal investment decisions (probably years from now) as well.

# CEE 211 Course Review

By Mark White

For those of you having doubts on which Non-IOE engineering class to take, CEE211 may be the answer for you. CEE211's Statics and Dynamics is basically a mild version of Physics 140. The first 3/5's of the class deals with statics, which basically means solving problems for objects that are at rest. Solving these problems entails simple algebra. Make sure all forces in the x, y, and z directions sum to zero, and that all moments sum to zero. For the first 2 to 2.5 months, this will be the basis for all homework and test problems. Not too bad at all. The remaining 1.5 months of the class deals with dynamics, which deals with solving problems for objects that are acted upon by an unbalanced force. Solving these problems are very similar to the statics problems except that all forces sum to mass\*acceleration, instead of zero.

Homework for this class is given out every week consisting of four problems each. The problems are not bad at all, and take no more than an hour to complete. Plus, when you do get stuck on a problem, the discussion section helps you figure out how to complete it.



The bad side about CEE211 is that the class meets Monday thru Thursday from 8:30-9:30am (Ouch!), and also holds an additional discussion section from 9:30-10:30am on Tuesday. For many, this time slot could be the deciding factor on taking the class or not. However, choosing to take this class is very well justified knowing that you may have avoided a potentially painful class such as ME211 (I have heard rumors it can be bad). All in all, CEE211 is a relatively easy class and those that didn't mind Physics 140 and don't mind waking up early should definitely consider taking it.

# Salary Negotiation

By Chin Fai Chow

Seriously, how much do you want to earn in your very first job after you graduate? I know we all want to earn as much as possible after we graduate, but when a company offers you a job, what is your answer when they ask you how much salary you want to earn? What will you do when companies offer you a salary that is lower than what you expected? I recently went to lecture that was offered by the Career Center and I have learned some of the skills that can help us how to negotiate salary offers successfully and I want to share it with my fellow IOE classmates. I think we all know that we need to be prepared for our interview and sometimes during the interview, they might ask you how much you are expected to earn for your salary. If you really want that job, you definitely do not want to screw this question up and ask for too much, but on the other hand, you don't want to low ball yourself and ask for the minimum wages so that you can get that job offer.

So what can you do? First, you want be prepared for this question as well as any other interviewing questions, and here is some ways that can help you to be prepared:

1. Read literature/websites on jobs & salary ranges.
2. Determine if jobs is entry-level or requires experience.
3. Determine what you bringing to the table that is extra.
4. Determine your needs like moving expenses or cost of living, etc.



Knowing this information can help you to get an estimate of your market value. Furthermore, you want to negotiate beyond salary and you want to know what other benefits the company will offer you, something really close to your daily living like company car, vacation and sick days, signing bonus, moving expenses, etc. Employers have considerations on the salary equity within the organization, if you do not know your market value or do not what to go over the company salary range which your did not know, it is not a bad idea to just encourage employer to reveal their own salary range. You want to allow the employer to respond and if their offer is lower than what you have expected, you should not panic and should always remain positive, you better be prepared with your reasoning so that the company notice your value.

One thing that is very important is that you can not counter as many times as you want to the salary offer and you only got one shot to counter it, if the salary is still lower than what you expected after you counter it, you have to be ready to accept that salary or you should walk away. If you really like that job, even if the offer is below what you expected, there is still some other way you can increase your salary, you can ask for a quicker raise in the future or you ask for more on other benefits. After all, you should always remain positive and I wish you all good luck on job hunting.

## 2007's Cheapest and Best Food

By Jared Davis

Now that winter semester has arrived, there are a fresh set of problems that we students have to worry about: the horrible Ann Arbor winter, new classes, and possibly that ex of yours from back home that you drunk-dialed when over break. But another problem that many of us face is the prospect of a dwindling bank account. So here is 2007's list of great food that won't break the bank.

**Ramen Noodles:** You have to respect a food that comes pre-packaged and all you have to do is add hot water.

**Alcohol:** Yup!

**Easy Mac:** This is a classic, and basically a staple of college students since the dawn of time. Fills you up and tasty too, plus it kind of reminds you of when you were a kid and didn't have to think... at all.

**Ketchup:** ... why not?

**Big Ten Burrito:** All of the items on their menu are rounded to the nearest dollar, which alone has to be enough of a reason. That aside, the quesadillas are the best in town and they have Mexican music playing so it has to be authentic.

**Entrée Plus:** That's still fake money right?

**Alcohol:** That's right, twice!

**BackRoom Pizza / In & Out:**

Both of these places have one dollar slices that are very edible. They are centrally located on north campus, and did I mention they have one dollar slices.

**Jimmy John's:** While not particularly cheap or good, these sub shops can be found virtually anywhere there is breathable air, so you might as well eat there.

**Chop House:** Um, are you sure this is cheap?



# WEBSITES

By Emily Servinsky

## All things newsworthy...

**BBC**

<http://www.bbc.co.uk/>

**Bloomberg.com**

<http://www.bloomberg.com/>

**CNN.com:** *Breaking News, U.S., World, Weather, Entertainment and Video News*

<http://www.cnn.com/>

**Drudge Report 2007**

<http://drudgereport.com/>

**Google News**

<http://news.google.com>

**LiveScience.com**

<http://www.livescience.com/>

**Salon.com:** *Original reporting and commentary on politics, news, culture and more*

<http://www.salon.com/index.html>

**Slashdot:** *News for nerds, stuff that matters*

<http://slashdot.org/>

**Slate Magazine:** *Current events, news, politics, culture, and more*

<http://slate.com/>

**The New York Times:** *Breaking News, World News & Multimedia*

<http://nytimes.com/>

**Time:** *Breaking News, Analysis, Opinions, Multimedia and Blogs*

<http://www.time.com/time/>

**Yahoo! Finance:** *Get stock quotes, market news, mortgage rates & currency info* [http://](http://finance.yahoo.com/)

[finance.yahoo.com/](http://finance.yahoo.com/)

## Anything you would like to know...

**Wikipedia**

<http://www.wikipedia.org/>

## For the sports fan...

**ESPN:** *The Worldwide Leader in Sports*

<http://espn.go.com/>

**SportsPickle.com:** *The Sports Humor and Satire Site on the Internet*

<http://sportspickle.com/>

## Randoms...

**AnswersThatWork:** *PC Tuning & Troubleshooting, Helpdesk, Computer Tips & Solutions*

<http://www.answersthatwork.com/>

**Craigslist:** *(housing ads, classifieds, items for sale)*

<http://www.craigslist.org/>

**Download.com:** *Free Software Downloads and Software Reviews*

<http://www.download.com/>

**PostSecret:** *(people send in their secrets to this site on postcards where the secrets are posted)*

<http://www.postsecret.com>

**Snopes:** *Urban Legends Reference Pages*

<http://www.snopes.com/>

**The Onion:** *(satirical news site)*

<http://www.theonion.com/content/>

**YouTube**

<http://www.youtube.com/>

## Class planning...

**Advising Report:** *(View of unofficial audit)*

<https://coeadvise.engin.umich.edu/welcome.php>

**MSchedule.com:** *(Create a schedule of your classes)*

<http://www.mschedule.com/mischedule/>

**RateMyProfessors.com:** *Professor Ratings*

<http://www.ratemyprofessors.com/index.jsp>

**University of Michigan's Advice Online**

<http://www.msa.umich.edu/advice>

# Scholarships

By Ibrahim Shamsi

With tuition increases (seemingly exponentially) every year that seem to go by at U of M, the extortive cost of finding “decent” accommodations in Ace-deuce add to that the fact that Ann Arbor is one of the most expensive cities in the Midwest; often students find themselves either begging their parents for more money or taking out student loans they know they will be trying to pay back for the next 10 or so years.

The biggest factor in this whole equation is the cost of attending U of M. With tuition, for full time engineering students now exceeding \$16,000, for non-Michigan residents. However there is a way other than begging the State and Federation for financial aid: scholarships. I know what everyone starts thinking when the word scholarships is mentioned; “I’ll never get one of those, there are too many smart people at this ^%@@@ university. I bet that kid who got an A+ in 373 is going to get it but not me.” But the fact of the matter is there is enough to go around for (almost) everyone who really needs it. Visit [http://www.engin.umich.edu/students/scholarships/Current\\_Students.html](http://www.engin.umich.edu/students/scholarships/Current_Students.html) for more information on College of Engineering-related scholarships.



# History of Valentine’s Day

By Amanda Kandt

Every February 14<sup>th</sup>, you celebrate Valentine’s Day with a loved one, but do you know why? Yes, one excellent reason is because otherwise your significant other would never forgive you for forgetting to recognize a “romantic” holiday. The original reason for celebrating Valentine’s Day is in remembrance of St. Valentine or Valentinus, who passed away on February 14<sup>th</sup>, 269. Valentine’s Day is not strictly a time to spend more money on your girlfriend/boyfriend by buying flowers, candy, and gifts. The legend of Valentine’s Day is a shroud of mystery, but as we know it today, it has ties in both Christian and Ancient Roman tradition.

In Rome during the third century, Emperor Claudius II, in an effort to strengthen his army, outlawed marriage for young men who generally composed his powerful armies. The Emperor’s hypothesis was single men made better soldiers than men with wives and families. Saint Valentine saw this law as unjust, and in response, continued to perform marriages as a Priest, but now, in secret. According to one legend, Valentine was sent to prison for defying the Emperor. In prison, Valentine sent the very first Valentine greeting to a young girl with who he fell in love. Apparently, he signed this card “From your Valentine”, which is a popular phrase still used today in many Valentine’s Day Cards. Saint Valentine was portrayed as a very romantic, passionate, and sympathetic figure, which sets the mood for what, today, we know as Valentine’s Day.



# Play Rugby!!!

By Jacob Leedekerken

Tired of being lazy and playing video games or surfing the internet? Used to play sports such as football, wrestling, soccer, lacrosse, etc. but aren’t 6’5” ? Still have a competitive drive and willing to try out a sport that is quickly growing in popularity? Then PLAY RUGBY!

Now the first thing that probably popped in your heads when you read the title is, “Play rugby?? How am I supposed to do that if I don’t even know what it is or even seen it played?” Well there is a very simple answer to that question, join the Rugby team. Yea, that’s right. The easiest way for anyone to learn and figure out what is and how it’s played is to play it yourself, watch it live, and ask people around you, who know a little bit about the game, what is going on.

How do you go about doing that you ask? Well, it’s very simple. This university has a club team, the University of Michigan Rugby Football club that has two seasons: fall and spring. What that means is that anyone can join or at least watch a couple practices any semester. All the men on the team are more than happy to share the knowledge of the sport. So, what that means is that if you have any desire to play a sport here at the University of Michigan, you should come out and watch or run-around with us at one of our practices. Also, you should check out our website, <http://www.umich.edu/~umrhc/>, and if you have any further questions contact via e-mail at [jbkerken@umich.edu](mailto:jbkerken@umich.edu).

# Traveling Research

By Jorge Carral

Traveling is something most young people are familiar with, and these days the internet has overtaken travel agents as the primary source for booking flights. This article lists some of the best travel websites that some people might not know about. To show an example I decided to perform 2 different searches on each of them, a domestic flight and an international flight over the break.

Domestic flight	DTW-JAX	12/18 – 1/3
International flight	DTW- MEX	12/18 – 1/3

A new trend in travel sites has come up with sites like sidestep.com and kayak.com. These sites search a wide network of airlines and other travel sites to get you the best deal. These two sites are very similar to each other, and they resulted in very similar prices. They allow you to choose the airlines you would like to consider, and also allow you to see what the prices would be considering nearby airports. These sites are a great start, since they search prices on other travel sites. The following summarizes the results of my search.

<b>Flight</b>	<b>Sidestep</b>	<b>Kayak</b>
DTW-JAX	\$222 (US Airways)	\$222 (US Airways)
DTW-MEX	\$582 (Continental)	\$589 (Continental)

The more known type of travel site these days covers everything from flights and hotels to car rentals and even some tourism packages. These sites are very comprehensive and have the advantage that they make their own deals with airlines so prices are sometimes lower. Orbitz.com, Travelocity.com, and Expedia.com fall in this category with Expedia and Travelocity getting the best reviews overall but Orbitz pulling ahead with better hotel deals.

<b>Flight</b>	<b>Orbitz</b>	<b>Travelocity</b>	<b>Expedia</b>
DTW-JAX	\$237 (Mult.)	\$291(US Air)	\$221 (US Air)
DTW-MEX	\$589 (Cont)	\$591(Cont)	\$587 (Cont)

The last two sites reviewed here are student travel sites. If you are lucky these sites will have a fare lower than the ones above. These sites are only for students and some airlines reserve some seats for students at a cheaper price. Studentuniverse.com and Sta.com are two of the most popular ones.

<b>Flight</b>	<b>Studentuniverse</b>	<b>STA Travel</b>
DTW-JAX	\$243 (United)	\$222 (US Airways)
DTW-MEX	N/A	\$612 (Continental)

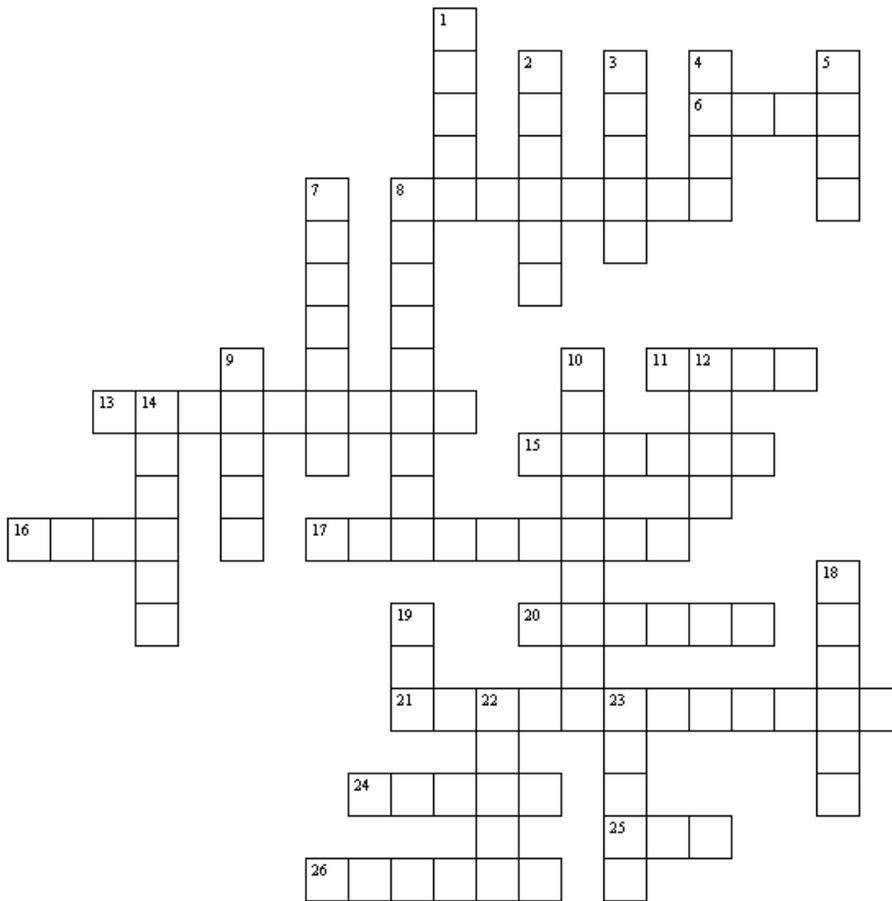
From looking at all these sites and from personal experience using most of these sites, sidestep and Expedia are the two best sites, but most traveling sites recommend to look at more than one site, and also look at the airline's website once you find the cheapest deal, because some airlines guarantee the lowest price at their website. Searching these sites will help you find the best deals out there and will be very helpful for your winter and spring break. If you find a better site, let me know.

# AIRPLANE



# The Backpage.

## Crossword Puzzle



### DOWN

- 1 Unit of energy
- 2 First six letters starting from the top left on a computer keyboard
- 3 C sharp
- 4 A current running contrary to main current or in a circular direction
- 5 One of the Columbus ships
- 7 Non-magic people in Harry Potter
- 8 A walk
- 9 Major Chicago airport
- 10 Lonely card game
- 12 Divisible by two
- 14 Author of The Handmaid's Tale
- 18 Show prototypes
- 19 Princess bruiser
- 22 Author of Common Sense
- 23 Movie portraying a fiction television journalist from Kazakhstan

### ACROSS

- 6 Artist of *The Persistence of Memory* (also called "Melting Clocks")
- 8 President's day month
- 11 Rate of change of acceleration
- 13 County which includes Ann Arbor
- 15 Allowable number of players on a football field at any time from one time
- 16 Capital of Norway
- 17 Author of the quote "I think, therefore I am"
- 20 Chess piece that can only move diagonally

- 21 Michigan's state flower
- 24 Author of Liar's Poker
- 25 Egyptian cobra
- 26 A short heavy stick used as a weapon; a club



*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 [frajen@umich.edu](mailto:frajen@umich.edu) or [bwinokur@umich.edu](mailto:bwinokur@umich.edu).*

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