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University of Rochester Biomedical Engineering

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The Legend of 201: The Myth Unraveled By: Kelli Summers

Kelli: Your class is pretty infamous for being the “weed-out” class or the hardest class, even as a freshman I was constantly hearing, “after 201 you can survive anything.” What do you think about these statements? Do you think they are true or do you think people are just exaggerating?

McGrath: I think there is some truth to it. The faculty have never called it a “weed-out” class and we certainly have not designed it to be a “weed-out” class, but you are students who are still young enough and early enough in your trajectory through the University that if this isn’t the right discipline for you, there is time to change. So I do want my course... to help you develop good habits and learn that engineering is hard work. Plus we go through a lot of material in only a semester so we have a lot to do. So these things make the course naturally a lot of work. The fact that this is hitting you in your sophomore year, in this critical time of decision making, I think is a very good thing. Usually some students find it to be a new type of challenge. If that doesn’t fit, people leave – I’m all for that. If their not willing to work hard enough, if they are not willing to come to class and learn what they need to learn to do well, I am more than happy to see them leave because I think it’s probably better for them and it’s better for our program if the students who are in the program really belong there and really

want to be there.

Kelli: Going along with that, do you think it’s how long it takes to make your homework pristine or do you think it’s the course material that makes [the course] so hard?

McGrath: I think it’s a combination because I think generally that’s the number one complaint: how ridiculous it is that they have to use straight-edges, and use circle templates, and if they don’t they get an absurd amount of points taken off. What’s funny is that it’s the same students who were going through this that will be my TA’s next year and guess what – they enforce the policies without me having to tell them or get on them , it sort-of propagates, they appreciate the discipline that they received from their TA’s and so they continue the tradition. I think the exams are designed, generally, to be exams that allow students who are exceptional to get perfect scores or something very, very high, and for everybody else they sort-of fall in line a little bit behind those. The exams are meant to be challenging and sort-people out a little bit according to their ability so I think every element of the course should present some challenges to students and I think if there’s a “weed-out” component, if there’s a component that really puts pressure on them, it has got to be the exams because it counts for 65% of their over-all grade.

Kelli: So then do you have a rough



Professor Jim McGrath received a giant size circle template the annual BME banquet this past April

estimate, throughout the years, of how many people or what percentage of the class 201 weeds-out?

McGrath: I think it’s roughly ten percent of the people who start the class that don’t finish it. That’s not a huge number. There’s an other group that passes, but gets D’s. That’s not a healthy thing to carry along too, and I think those are people that I care a lot about because they are really giving it their all.

Kelli: On that same note, I’ve heard that only two or three people get A’s in the course.

McGrath: There’s definitely been years where only a couple of people have gotten an A. Here at the University of Rochester they have flavors – that’s what I call an A, A-, B+, B, B-, etc. I do the following; I like the students to sort themselves out. I tend to use a straight scale, and look for breaks in the distribution of grades so if two students are above 95, and then there is a pack of ten of them below 94 then the two above 95 will get A’s and the others will get A-’s because they sorted themselves. If we have an

Letter From the President of BMES

The Biomedical Engineering Society (BMES) at the University of Rochester is excited to promote the profession of Biomedical Engineering by continuing to plan events for the BME community here at Rochester, and continuing to improve relationships between undergraduates, graduates, faculty and staff.

BMES kicked off the fall semester with the annual BME Department Picnic, which was attended by over two hundred students and faculty. Additionally, BMES hosted a Concentration Panel where freshmen and sophomores had the opportunity to learn about the four different concentrations in BME from upperclassmen. For the past few weeks, the BMES Executive Board has been working together with Dr. Gdowski and Bioengineering students at RIT to plan an event entitled, "Bridging Gaps Between Education and Employment in the Biotechnology Sector of Upstate New York", which will

be held in early December. This event will include a poster session and speaker presentations followed by a social hour. Speaking at this event will be Diana Jensen-Dooling, NYS Director of Project Lead the Way, and Heather Erickson, President of MedTech.

Next semesters events include an Industry Tour, Post-Graduate Panel, and a networking night, "Biomedical Engineering and Industry in New York." Last years networking night featured representatives from over twelve companies and provided students with a great opportunity to network and to learn more about working in industry. We hope to make this years networking night even more successful by having a higher number of companies in attendance.

BMES holds open Executive Board meetings every Tuesday at 6pm in Goergen 239. We welcome anyone who is interested to join us. Any comments or



suggestions for BMES would be greatly appreciated. Also, please remember to become a national BMES member and to support our local chapter. Membership applications can be obtained from Dottie or by speaking to any BMES Executive Board member. Applications should be turned in to Dottie by early February.

Sincerely,

Nicole Ruszczak

President, University of Rochester BMES

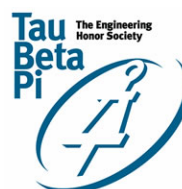
Students in the News: New Tau Beta Pi Initiates

On December 6, 2008 the University of Rochester Chapter of Tau Beta Pi (New York Kappa) will induct 28 new members. Tau Beta Pi is a national honor society that recognizes those students within the top eighth of all junior engineering students and the top fifth of all senior engineering students. The society was formed at Lehigh University in Bethlehem Pennsylvania in 1885 by Edward Higginson Williams Jr. in order to recognize outstanding character and academic achievement of undergraduate engineering students. Today there are more than 235 collegiate chapters with a total initiated membership of 501,296. The University of Rochester chapter was formed on December 13, 1947. The campus chapter has inducted over 1,000 new members since that time.

Of the newly inducted members of the University of Rochester Chapter, 14 are perusing an undergraduate degree in Biomedical Engineering. The new inductees

include: Andrew Bochenko '09, David Ciuffo '10, Lisa Cole '10, Derek Crowe '09, Suzanne Giunta '10, Robert Handzel '09, Vaibhav Kakkad '10, Brian Kraftschik '09, Diana Ladkany '10, Siu Lo '10, Dan Mendelson '10, Daniel Seidl '10, Sean Virgile '10, Corey Walker '10, and Martin Wegman '09.

Tau Beta Pi has a strong presence on campus. They currently offer tutoring hours for introductory level engineering classes and help with the First Lego League competition held every winter at the University of Rochester. The group is also planning events to spark interest in engineering in both high school students and incoming freshman at the



Pictures from BMES Events

Volunteering with Elementary Students



BME Band Plays at the annual banquet



Event Preview: Bridging Gaps Between Education and Employment in the Biotech Sector of Upstate New York

On December 12, 2008, a new and exciting event will be held in Goergen Hall at the University of Rochester. The event entitled "Bridging Gaps Between Education and Employment in the Biotechnology Sector of Upstate New York," is sponsored by the Rochester Chapter of the Society for Engineering in Medicine and Biology (a subset of IEEE, the Institute of Electrical and Electronics Engineers Inc.). It is one of the first events where the students, faculty and staff at the University of Rochester and the Rochester Institute of Technology are able to interact with each other in one location.

The event will begin at 4 pm in the Atrium of the Biomedical Engineering and Optics Building with a poster session. Posters will be presented by students of both the University of Rochester and the Rochester Institute of Technology as well several upstate biomedical companies. They will highlight the exciting and cutting edge research and technology that is occurring on both cam-

pus.

The event will then move into Sloan Auditorium to hear two incredible speakers. The first is Diana Jensen-Dooling, the New York State Director of Project Lead the Way. Project Lead the Way® is a non profit organization that works to spread the number and prevalence of pre-engineering courses and resources for both middle and high school students. The organization works with public schools, colleges and university's as well as industry in hopes of increasing the amount of graduating engineers. The program began in 1997 with 12 New York State high schools participating and has grown to include over 3,000 schools across the United States. Some of the courses Project Lead the Way helps to organize include Introduction to Engineering Design, Digital Electronics as well as a capstone design project.

The second speaker is Heather Erickson who is the President of MedTech. MedTech is also a non profit regional association whose members include New York technology manufacturers, research institu-

tions, allied professional services and economic development organizations. Their main focus is the commercialization of medical technologies within the next three to five years. The group was formed in 2004 by Welch Allyn, ConMed, Sensis and Bristol-Myers Squibb to transform Central New York into a knowledge based economy. Today their membership includes companies such as Ortho Clinical Diagnostics, Carestream Health Inc, and Vaccinex (Three companies who appeared at our successful industry and networking night this past March). The talk will specifically address opportunities for employment in the healthy care technology industry of Upstate New York

The event will conclude with a social hour where UR and RIT students, faculty and staff will be able to interact. There will be live music as well as free food.

BMES would like to thank Greg Gdowski Ph.D., the Chair of the Rochester Chapter of EMB for his help and support while planning the event as well as Vivek Khandwala who helped organize the poster session.

Become a National BMES member

Online Job Board
Networking Opportunities
BMES National Newsletter
Scholarship Opportunities

Discounts on BMES events and Fundraisers

Cost: \$30 dollar National Dues
\$5 Local UR Dues
Checks or Cash can be turned into Dottie

UR Biomedical Engineering Window Clings

Dimensions: 14" x 5"
\$5 each



To order, mail order form and money to:

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University of Rochester
Dept. of Biomedical Engineering
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Rochester, NY 14627

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Quantity: _____ Amount Enclosed: _____ Cash Check

Please note: All orders **must** be picked up by a UR student
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University of Rochester Biomedical Engineering Society

The Legend of 201: The Myth Unraveled *continued from pg 1*

educational system where every single person is getting A's and slaps on the back like it is in Kindergarten, there's no motivation for those people and there's no opportunity for those people to really show what they can do so we have to do that. At the same time, if the class does not distinguish between people, or if there's twelve people who are similarly capable and they are all bunched up, then they all get the A's and the group that comes in just behind them will get an A-. One thing I worry about is that it might cause some of the students to look around at who the stars are and sabotage them.. It promotes competition, and I like competition. If you are striving to keep pace, and other people are striving to break away, everyone is getting better. I think that's a good thing. I don't have any apologies for that.

Kelli: Should people be afraid of your course?

McGrath: Yes. The alternative for me is that they are indifferent or they are relaxed. I would much rather know that the freshman are a little nervous about their upcoming course in 201 because I know it means that they will be attentive, and that they will be preparing mentally to do a lot of work. The course has a reputation for freshman and it's making them think about their future, whether they really want to go forward.

Kelli: I have been hearing rumors

that Andrew Bochenko stayed for seven hours for the final and so I was just curious how a final so long? Is there a lot of tedious work? Or do people fall asleep and then wake up?

McGrath: No. I'm a little bit nervous about this going into print, but what-the-heck. The final is a response to criticisms that I've received from students that they don't do well on timed exams. I think that's actually true. I think I am actually one of those students. I will do my absolute best work if someone gives me ample time and there are many students who feel the same way and yet we have these fifty minute exams in class and I think there is some value in those too because it shows a difference in the skills. Students have different types of brilliances I guess. But the final is an attempt to say okay I don't want you to worry about time, I want you to worry about getting your ideas on paper. Since they started scheduling me late at night, which has been true for like four years now, I just said well we'll go as late as you guys want. I said it the first time not expecting it to go more than four hours, but it was about two o'clock when we wrapped up. The next year it was similar. And then there was the Andrew Bochenko year which ended at about three-thirty in the morning with the security guard

breaking into the classroom and not believing that we were who we said we were. The reason he broke into the building was because my wife was terrified for me. She didn't know where I was and so I had to call her on a phone and it was a mess. Finally, even after through all that, Andrew went back to work and I had to have my wife talk to Andrew and him say yeah yeah I am a student still working on his final. He was an exception. It's not that the questions are tedious, though they tend to be longer questions, what students do is they totally take their time. They work on a couple questions, then they take a break, go out for a little walk, get a drink, clear their head, come back in and start again on the next question and they check their answers. At some point late in the evening I start getting a little grumpy and I get people to leave. Think of it as a take-home exam that you take in class, so you're just going to do it in a marathon session until it's finished.

Kelli: Is there anything else you would like to say about this class?

McGrath: I enjoy teaching this class. I would like everyone to know that and every year I re-discover my enthusiasm for the course and I think it's the students. It's fun to teach sophomores at this time in their lives as their making these critical decisions. It's a fun course... It's a fun course to teach. So it can't be all that bad if the teachers actually enjoying it.

Save the Date!! Upcoming BMES events!!!

January

Industry Tour

February

Industry and Networking Night

BMES Exec Board Elections for 2009/2010

March

Spring Fundraiser

Spring Student/Faculty Mixer

April

Annual BME End of the year banquet