

General Meeting – 9/24/08

Ben – Speaker = Dr. Jay Goldberg from healthcare

- Recap, kickoff cookout about 60 people
- Won kickball vs. IEEE w/ GE Healthcare – 30-40 people
- Career Fair orientation
- River food pantry first outreach of the semester, repeating weekly
- BMES study hall weekly event as well

Mike – Last week River food pantry, going again tomorrow on Friday 11/26, sign up sheet meek 4:45 by the fountain – like a grocery store

- Science Olympiad every other Wednesday, Edgewood middle school, mentoring kids for their competition in the spring, sign up in back or email Mike

Andrew – Friday Oct 3rd bon fire on Picnic point; meet at fountain at 7 to walk or drive; hopefully have drivers; if you can drive let Andrew know; sign up sheets in the back

- Capture the flag vs. IIE – rematch from last year Thursday Oct. 9th outside engineering
- ALPS – icebreaking, team building events; High ropes course Oct. 26th 9-4 PM; sign up in the back; if under 18 need permission form

Emily M. and Sarah – EXPO exhibit get the word out that you don't have to do an exhibit through an org; there are prizes for exhibits (\$100s); Design groups can participate; Any questions ask Sarah or Emily

- Kaplan contact Ben if interested in taking GRE, MCAT, LSAT, and we can get discounts; we will auction off the course (valued at \$2000).
- Attendance point winners: Laura Bagley, Chi-see Tsao
- Checks sent in groups so

Dr. Jay Goldberg –

- Background: Went to Univ. of Illinois “Bioengineering Option” Senior year wanted to go to medical school; Masters from Ann Arbor; Went to work in industry with Depew (2 yrs) knee ankle and toe implants; Worked with Baxter worked with low cost urological devices; Sercitech (9yrs) promoted to group leader
- As engineers we don't take business classes – when working in industry promotions lead to management
- Went back to school PhD from Northwestern; Been at Marquette for 14 yrs – has worked in industry and academia
- When working at Baxter and Sercitech – went to management school from Northwestern, engineering management

I. Healthcare technologies management program:

- Needs of Engineers in industry, may find yourself there even if it's not where you planned on going
- Lack business skills – reach a point where career advancement puts you in management position; high incidence of managerial failure, so need to take business classes and keep up with technology
- Employers – medical device companies, hospitals, and healthcare consulting firms need: personnel with technical and management skills, and an understanding of the economic and regulatory aspects of healthcare delivery; to train, educate, develop
- Current options for Continuing Education: Master of Business Administration (MBA) or Engineering management
- Program objectives: Supplement technical background with formal business and management education; develop understanding of the economic aspects of healthcare delivery; prepare for placement
- Focus on management of: design, development, commercialization and regulatory

- 15 courses full or part time (can be done in 12 months full time) courses taught in the evening; offered at MU and MCW, MS degree from both institution
- Program includes: healthcare technology management courses (47%)
- Business/Management courses (37%): accounting foundations, managerial accounting, marketing management, financial management, organizational behavior
- Elective courses (16%): professional development course, graduate level
- Faculty: Marquette and MCW
- Application: test scores (GRE, MCAT, or GMAT), Transcripts, three letters of recommendation, minimum GPA of 3.0-4.0, Bachelor's degree in engineering or equivalent
- Advantages: relevant practical curriculum, less time to complete than MBA, flexible, better addresses needs of engineers – “management degree for biomedical engineers”
- Benefits: Employers better equipped to meet goals
- Where are graduates employed: 100% match rate, well known medical companies, hospitals, Consulting organizations/Start ups; 1/3rd graduated in management positions
- Summary: advantages of MBA, MEM and MS degrees; graduates employed in companies, hospitals and consulting firms

II. Career opportunities for biomedical engineers: He talks to school around the Midwest every year

- Medical device companies: r & d, manufacturing engineering, quality assurance, marketing/sales, regulatory affairs
- Private testing laboratories: underwriter's laboratories, ECRI (consumer reports of medical instruments)
- Government: Research laboratories, regulatory agencies, military, Public health service, NASA, Peace Corps
- Hospitals: Clinical engineering, laboratory manager (Catheter, radiology, etc.)
- Consulting: Healthcare consulting (Accenture), Design (IDEO)
- Academia: Research and teaching
- Nontraditional fields: technical writing, sales training, teaching, patent law, medicine

Academia:

- intellectual curiosity
- publications
- more basic research
- need to obtain grants
- involved in initial phases
- less urgency
- flexibility

Industry:

- profitability
- product introductions
- More applied research
- Funding available
- Involved in entire project
- “time is money”
- Higher pay

- Graduate school: required for medicine, law, dentistry
 - o If not sure career goals, consider relevant work experience: develop new perspectives, priorities, learn what is needed for success, clarify career goals, enhance application (grades less important)
 - o PhD: good reasons: autonomy, advanced research, teaching
 - Poor reasons: weak job market, nothing else to do, money
- Employment outlook: faster than average increase than other occupations through 2012: aging population, focus on health issues
- Emerging new areas: computer assisted surgery (MIS), nanotechnology
- What employers are looking for: strong communication and interpersonal skills, leadership skills, acquired experience in field, good grades (first job), good work ethic, well rounded applicants, communication and interpersonal skills can be just as/more important than technical skills, teamwork, analytical thinking, time management, adaptability, geographic awareness and global understanding of events and how they affect company

- Thinks to remember: first job is springboard to career, there is no perfect job – decide what is important to you, job satisfaction, opportunity to learn new things and gain experience more important than money, be flexible on location, title, salary and benefits, be willing to pay your dues
- Summary: many opportunities available to BMEs, successful engineering careers require technical, communication and interpersonal skills, careers in BME pay well and can be very rewarding