TGIF in UW BME Design
• BMES President: Kennedy Pawell
• Upcoming events
  • **Kickoff Cookout** – September 14th 5 pm-end
    Edward Kief Park
  • **General Meeting** – September 19th from 7-8 pm
    Mechanical Engineering Room 1106
    GE Healthcare
• [http://bmes.slc.engr.wisc.edu/](http://bmes.slc.engr.wisc.edu/)
• BME 300: Guide the sophomores
• BME 200: Contribute and learn by doing/observing
The BME Design Curriculum

- BME 400: Tackle a more difficult challenge
- BME 400/402: Outreach and publication
BME Design Objectives

• Be an Engineer
• Design & build something for someone
• Design the verb not the noun
• Peer mentoring
• Just-in-time (sur)real learning (learn how to learn)
• Career track
• Letters of recommendation
• Have fun!!!
Design Course Faculty - Advisors

Find expert advice
• Start here! (course page)
• Canvas discussion
• Design studio
Team roles

• **Team Leader:** Responsible for organizing weekly progress reports, team goals and team meetings.

• **Communications:** Primarily responsible for communications with the client and other professional contacts - distribute progress reports.

• **BWIG (Biomedical Web Implementation Group):** is responsible for the team's website and the overall website is overseen by the BWIG chair. Add deliverables, photos and status updates to the website.

• **BPAG (Biomedical Purchasing and Accounting Group):** is responsible for ensuring that all necessary materials are acquired and for maintaining all financial records for the team.
Team roles

• **BSAC** (Biomedical Student Advisory Committee): provides feedback to faculty about the design courses and curriculum and is chaired by an elected student.
  - Meets 6 times in the semester, **Fridays at 11 am - Noon** in 2305 E-Hall
  - ‘Peer Advisor’ role of BSAC: Freshman mentors
  • Each BSAC member will be assigned ~3 directly admitted BME freshman
  • Meet with them as often as need, scheduled events, and more
  • Report back to BSAC and your Design advisor about the “Freshman” experience
  • Feel free to involve your whole team in the process
  • Note: BME 200 will not be assigned Mentees, but can still be in BSAC
• Want to be a mentor: [http://bmedesign.engr.wisc.edu/mentor](http://bmedesign.engr.wisc.edu/mentor)
The Design Process

Define
What is the problem?
What are the specifications?

Imagine
Brainstorm and analyze ideas
No bounds / no limits
Sketch!

Create
Design detailing
Model/prototyping
Testing plan

Evaluate
Design Matrix: specifications
Gather feedback
Create a plan

Improve
Refine
Evaluate
Repeat
Key Dates

- BME 3/400 Class Advising Day-Post Grad*  
  Friday, September 14  12~1 pm
- BME 400: Required outreach seminar*  
  Friday, September 21  12-1:30 pm
- Preliminary presentations*  
  Friday, October 5  12-2 pm
- Tong Distinguished Entrepreneur Lecture*  
  ~Friday, November 2  12-1:15 pm
- Show and Tell Session*  
  Friday, November 9  12-2 pm
- Thanksgiving Break  
  Friday, November 23  No class
- Design Expo (final poster presentations)*  
  Friday, December 7  12-2 pm
- Final Deliverables due  
  Wed, December 12  4 pm

* Mandatory Attendance

http://bmedesign.engr.wisc.edu/course/
Check the schedule for specific events related to your team roles
Required Outreach Seminar: BME 400

Friday, September 21\textsuperscript{st} 12:05 pm – 1:30 pm, Rm 1003 ECB (Tong)
Read through all materials \textbf{BEFORE} you conduct outreach!

http://bmedesign.engr.wisc.edu/outreach

Deliverables:

- \textbf{Presentation:} 10-15 min introductions (personal story), define BME, and activity
- \textbf{Activity}
  - 45 min FUN hands-on activity!
  - Must have clear learning objectives (2-3)
- \textbf{Report}
- \textbf{Teacher/Leader Evaluation}

(Individually or teams up to 5)
Resources

- **Canvas Discussion forum**
- **Course Webpage & Schedule**
  - Additional resources and technical content
  - Evaluation forms / grading
  - BME Design Logos
- **BME SharedLab Resources**: Equipment manuals
  - **Tissue Engineering Lab** – 2005 ECB
  - **BME Design Studio!!!** – 1080/1070 ECB
    (Blue room 1080 – OPEN!)
- **COE Shops** – ECB (TEAM Lab)
- **COE Makerspace** - Wendt
  3D printing and more
  One $50 fee and one pass – works for both
ENGINEERING CENTERS BUILDING - BME TEACHING LABS

- Sinks Below Stairs
- TEAM LAB
  Technical Education And Manufacturing Lab

Willis Tomokins & John Webster
BME Design Fab Lab
Green Room

BME Design
Project storage

Willis Tomokins & John Webster
BME Design Studio
Blue Room

Misc. design supplies
(Try before you buy)

Bioinstrumentation Lab
BME 310, 462, 463, etc.

Lab storage for Instructors

9/7/2018
Lab Safety and Etiquette

• Tissue Lab (2005 ECB): Biosafety level 1
  • Glove and glasses
  • Shoes and long pants, No Food or Drinks
  • No human cell lines or human tissue testing

• Label everything!
  • “Team short Name, Semester/Year, & Contact Email"
  • ELSE the contents will be removed

• Clean up! (messes, glassware, benches, etc.) – Lost and found
Notebook: Best practices

• Show your individual contribution to the team
• Needs to tell the COMPLETE story – Logical Flow & Repeatable!
• Real-time entries (not looking for perfection)
• One notebook per team – easily access team’s work
  • Team area = group work
    • Client/advisor meetings
    • Design Process – evolution of PDS, brainstorming, design evaluation, etc. (NO TEAM MEETING FOLDER)
    • Fabrication, repeatable protocols, testing sessions, and materials and expenses
  • Individual area = your personal work
Notebook: Best practices

• One notebook per team
  • Individual area
    • Literature and patent research
    • Your design ideas
    • Your training documentation
    • Your understanding of your teammates important findings

• DO NOT COPY – no duplicate entries
  Example: Research
  • Can read the same paper – take your own notes
  • Can discuss with your team – draw your own conclusions
  • Can NOT copy your teammates notes
Notebook: How to set it up!

- **Team leader ONLY** follow the link on Canvas
  - Right click on the notebook name
  - Click “Share”
  - Enter the netID@wisc.edu email addresses of teammates
  - Check “to edit” then click OK

- **Everyone**
  - look for the email noreply@labarchives.com
  - Change folder name “Individual Name” → Your name

- **BME 200 only** - DO NOT CHANGE THE PRE-FILLED EMAIL ADDRESS when setting up your account
Notebooks: How to access it

• Electronic Notebook Reminders
  • Keep up-to-date
  • Design advisors can view anytime
  • Follow entry format
  • Make sure it is clear who created the content

• https://mynotebook.labarchives.com/

• Log in by selecting institution: “University of Wisconsin Madison”
1. Download app (Android or iTunes)
2. Go to a browser on device and login to LabArchives
3. Click on your name
4. Select LA App authentication
5. Note email (should be @wisc.edu) & copy password token
6. Go to the App
   1. Click on the GEAR → Set Autologin to ON
   2. Enter the email and password token (only needed once)
Email etiquette

• Communicating with professionals and instructors:

**unprofessional email**

From: sillyname@yahoo.com
Subject: Hey

can u tell me what u covered in class today. I had a VERY LONG week with a calc test ugh and i missed ur class. Did I miss anything important? pleease help TYVM

Student

**professional email**

From: realname@wisc.edu
Subject: BME Design 300 class on 9/4

Dear Dr. Puccinelli,
I apologize for missing class today. I checked the website and do not see the slides posted. Could you let me know when they will be made available? Thank you.
Sincerely,
Student
Email etiquette

• Communicating with professionals and instructors:
  • Use your university email address @wisc.edu
  • Address professors and clients appropriately: Dear Dr…. (or Prof.)
  • For meetings – suggest several meetings times for you/team
  • NO text-messaging slang or shorthand, e.g., k? Thx, OMG …
  • Use complete sentences, punctuation, and correct grammar.

• Before emailing me/advisor, carefully read news postings, emails, the course web page, etc.
Safety Guideline & Training Decision Flowchart

Found on the Design Resources Page:

http://bmedesign.engr.wisc.edu/course/resources/#design_topics
QUESTIONS?
Project SELECTION and then (in CANVAS):

- Stay put – congregate with your team and advisor
- Decide on the team roles: Leader, Communicator, BSAC, BWIG, BPAG
  
  BWIG webmaster: Ethan York eyork@wisc.edu
  BSAC Chair: Rebecca Alcock ralcock@wisc.edu

- Build your webpage/post roles – BWIG ONLY http://bmedesign.engr.wisc.edu/build/
- Setup your team notebook – Team Leader ONLY
- Take your team photo – BWIG upload the photo!
- Email your Client (proper etiquette, include website link) – Communicator
- ALL – SWAP ENROLLMENT INTO YOUR ADVISOR’S SECTION
- First Progress Report due by 5 pm next Thursday