Welcome to Miami University’s School of Engineering & Applied Science

Dr. Bo Brinkman explaining his research group’s augmented reality Android app for shelf reading and inventory...see http://www.users.muohio.edu/brinkmwj/ar/index.html
Introductions

• Incoming Students
  – Name
  – Where from
  – What planned degree (undecided is OK)
Your presenters and main contact

• Peter Jamieson
  – Assistant Professor in ECE
  – ECE Adviser
• Bob Setlock
  – Assistant Chair of MME
  – Chief MME Adviser

• Brian Kirkmeyer
  – AKA Dr. Kirk
  – Karen Buchwald Wright
    Assistant Dean for Student Success
  – Chief Divisional Adviser
What are the goals this afternoon?

1. Introducing you to useful people
2. Demonstrate resources to help you
3. Help you understand our majors
4. Help make your schedule
What do we want to avoid today?
Website Resources

- http://www.eas.miamioh.edu
- http://www.miamioh.edu
- Niihka
Our mission, in part, is to serve society by providing high quality undergraduate and graduate education in the fields of computing and engineering. We are committed to creating an environment for teaching, learning & scholarship that is intellectually stimulating, interactive & innovative.
SEAS Complex

Benton Hall
Dean’s Office, CSE, SEAS-IT

Garland Hall
ECE, MME

Engineering Hall
CPB

Engineering and Computing in a student-centered, vibrant, interactive environment
Engineering and Computing in a student-centered, vibrant, interactive environment
Engineering and Computing in a student-centered, vibrant, interactive environment
Computer Science & Software Engineering (CSE)
205 Benton, 513-529-0340

• Majors
  – Computer Science
  – Software Engineering
  – Engineering Management – Systems Analysis
  – Also 5-year BS/MS combined

• Minors
  – Computer Science
  – Computational Science & Engineering
  – Bioinformatics
  – Digital Game Studies (via AIMS)
Chemical, Paper and Biomedical Engineering (CPB)

64 Engineering, 513-529-0760

• Majors
  – Bioengineering
  – Chemical Engineering
  – Engineering Management – Environmental
  – Engineering Management – Paper Science

• Minors
  – Bioengineering
  – Chemical Engineering
  – Paper Engineering
Chemical, Paper and Biomedical Engineering (CPB)

64 Engineering, 513-529-0760
Electrical & Computer Engineering (ECE)
260 Garland, 513-529-0740

• Majors
  – Electrical Engineering
  – Computer Engineering

• Minors
  – Electrical Engineering
  – Computer Engineering
Mechanical & Manufacturing Engineering (MME)
56 Garland, 513-529-0710

• Majors
  – Mechanical Engineering
  – Manufacturing Engineering
  – Engineering Management – Manufacturing

• Minors
  – Mechanical Engineering
  – Manufacturing Engineering
Mechanical & Manufacturing Engineering (MME)
56 Garland, 513-529-0710
4+1 Programs

• Bachelors + Masters program
  – Chemical Engineering
  – Computational Science & Engineering
  – Computer Science

• Works with almost any of our majors
Engineering Management

- *Environmental concentration (CPB)*
- *Manufacturing concentration (MME)*
- *Paper Science concentration (CPB)*
- *Systems Analysis concentration (CSE)*
- *Electronics & Computing concentration (ECE)*
General Engineering
106 Benton, 513-529-0700

• Big-picture engineering, computing & technical skills, with a non-technical focus
• Goal is to think like an engineer but not necessarily have a career as one
General Engineering
106 Benton, 513-529-0700
A Moment of Reflection

• Take a minute or two and think about the following:
  – **Students** – What is your greatest strength? How can you incorporate this strength as you begin to plan your academic career at Miami?
  – **Parents** – What do you consider to be your student’s greatest strength, and why? How might you encourage your student to further develop strengths and interests at Miami?

• These answers can help guide your choice of major and, ultimately, career

• You will discuss these with your SOUL later today
Winter Term

• Jan 2nd – Jan 25th
• SEAS offerings
  – Canada Robots
  – Austria Paper Engineering
  – India Chemical Engineering
  – India SEAS/FSB joint program
  – On-campus options as well
• Study abroad costs are comparable to on-campus costs
Our Partners

• Reserve Officers Training Corps (ROTC)
  – Air Force
  – Navy, including Marines

• Career Services
  – Jess Melita, Coordinator for SEAS/STEM
Top 10 Myths About ROTC

(...or what an Engineering student needs to know about the military)
#10

Everyone is on scholarship ... if I don’t have one, I can’t get into the training.
#10

Everyone is on scholarship ... if I don’t have one, I can’t get into the training.

- Only about half of current cadets are on scholarship.
- Although the “High School Scholarship Program” application process has passed, there are still opportunities for “In-college” scholarships.
- Engineers have the inside track on scholarships!
- All scholarships look the same, once earned: FULL tuition & fees, $900/year for books, monthly stipend ($250, $300, $350, $400).
- Miami kicks in money for room & board.
I’ll be committed to being in the military.
#9

I’ll be committed to being in the military.

• There’s no commitment until you get a scholarship or start your junior year.
• “Committed” to what ... 4 years in a great job in an outstanding organization on the cutting edge of technology?!!
  (Ask me about pay and benefits!)
• You’re “committed” to honing the leadership skills the corporate world salivates over.
#8

I have to be a fitness stud.
#8

I have to be a fitness stud.

• The test isn’t that hard.
• You don’t have to be able to pass it until the end of your second semester
• We have a plan.
#7

Between normal studies and ROTC, I’ll be too busy to have fun.
Between normal studies and ROTC, I’ll be too busy to have fun.

• This ain’t the Academy.
• The “General Military Course” (first 2 years) requires about 5-6 hours/week.
• Includes 2 hours of PT, 2 hours of “Leadership Lab,” & a 1-credit-hour (really easy) class.
• Your ROTC instructor is an additional mentor/advisor to help you stay on track.
• We LOVE cadets to be involved in other things!
#6

My entire social life will revolve around ROTC.
#6

My entire social life will revolve around ROTC.

- There is no “ROTC dorm” at Miami.
- Most cadets are involved in other organizations.
- We’ve had many cadets who are also Greek ... some in leadership positions of both.
- ROTC men and women make pretty good friends, anyway ... a social & professional network.
In the military, I won’t be able to do “real” engineering.
#5

In the military, I won’t be able to do “real” engineering.

- What’s “real” engineering?
- We have dozens of great career fields that ALL involve leadership, planning, strategy, and responsibility.
- All fields love engineers, just like your later employer will love your military experience.
- Some jobs even involve “real” engineering.
#4

I’m at the whims of “the man” for my job.
I’m at the whims of “the man” for my job.

• Yes, but first “the man” asks what you’d like to do and where you’d like to be assigned.
• Most grads get their top 1-3 choices.
• There are no bad jobs!
#3

If the military shrinks, my job will be at risk.
#3

If the military shrinks, my job will be at risk.

• We ALWAYS need new lieutenants.
• If we need fewer, we reduce the number starting out, but once on duty, if you perform you will get promoted.
• Any cuts to year groups are made 2+ years before graduation.
You have to “apply” before you start your freshman year.
#2

You have to “apply” before you start your freshman year.

• You just have to register for the classes before the end of the second week.
• There is no “application.”
And the #1 Myth

I don’t look good in a uniform.
And the #1 Myth

I don’t look good in a uniform.

• We ALL look good in a uniform!
• It’s one fewer day/week to decide what to wear.
• And, BTW they’re all free.
### Visit us in Millett Hall

Look for the pull-up bars outside Millett Hall’s northwest entrance

<table>
<thead>
<tr>
<th>Air Force: Corps:</th>
<th>Navy/Marine Corps:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 50</td>
<td>Room 67</td>
</tr>
<tr>
<td>513-529-2031</td>
<td>513-529-3700</td>
</tr>
</tbody>
</table>

0730-1630 Monday – Friday all year.
Welcome to...

INTERMISSION*

* Music & Lyrics from “Ixnay on the Hombre” by The Offspring
Engineering Challenges vs Liberal Education

- Make solar energy economical
- Provide energy from fusion
- Advance health informatics
- Prevent nuclear terror
- Advance personalized learning
- Provide access to clean water
- Engineer better medicines
- Secure cyberspace
- Engineer the tools of scientific discovery
- Develop carbon sequestration methods
- Restore/improve urban infrastructure
- Reverse-engineer the brain
- Enhance virtual reality

- Think critically
- Understand contexts
- Engage with other learners
- Reflect and act

Engineering and Computing in a student-centered, vibrant, interactive environment
Liberal Education is for EVERYONE

• The emphasis on liberal education is for all
• The plans differ for Honors and non-Honors

• Global Miami Plan
  o Five categories
  o 33-36 hours of coursework required to complete Foundation
  ✔ Thematic Sequence
  ✔ Capstone

• Honors Plan
  o Five breadth of learning outcomes
  o Nine Honors experiences
  o Six competency areas
  o Annual meeting with Honors adviser
Global Miami Plan Requirements

I. English Composition & Literature (6 credit hours)
   Usually ENG 111 and 112

II. Fine Arts, Humanities, Social Science (9 credit hours)
    A. Fine Arts - 3 credit hours
    B. Humanities - 3 credit hours*
    C. Social Science - 3 credit hours – ECO201 or others

III. Global Perspectives (6-9 credit hours)
    A. Study Abroad w/6 hours of coursework, or
    B. G-courses (9 hours), or
    C. G-cluster (9 hours)

IV. Natural Science (9 credit hours, including one lab course)
    A. Biological Science - 3 credit hours, minimum
    B. Physical Science - 3 credit hours, minimum

V. Mathematics, Formal Reasoning, Technology (3 credit hours)
    MTH151 or 249
Honors Plan Requirements

• See online Honors Program Requirements
Important notes about advising

• **ADVICE IS TO HELP YOU MAKE DECISIONS**
  – Academic life, student life, career options, experiential opportunities, …

• More than just scheduling classes
  – Connect with tutoring, career advice, research opportunities, etc.

• Advisers are experts in certain areas and partner together
  – Faculty adviser in your major from DAY ONE
  – First-Year Adviser (FYA) in your residence hall
  – Athletics, honors, pre-professionals, learning assistance, ROTC, commuting office, …

• Dr. Kirk is SEAS representative to Pre-med and Pre-law
Putting together your schedule

• At this point, please have in front of you:
  – Your scheduling worksheet (pages 39-41 in Guidebook)
  – The first semester schedule page
  – The blue Miami Plan course sheet
Thinking about your schedule

• All of these play a role
  – Major or career intentions
  – Math placement test score***
  – Course credit you’re bringing (AP, IB, PSEOP)
  – Co-curricular (ROTC, band, sports, …)
  – Future considerations (like study abroad)
  – How long you are willing to be in college
  – High school record and ACT/SAT
How do I construct my schedule?

- Most SEAS students will take:
  - EAS101 (1 hour)
  - ENG111 (3 hours)
  - MTH151 (5 hours)
  - Science (see next slide)
  - Programming (in 2 slides)
  - Miami Plan course, if room left
Science?

- Why take PHY?
  - MME major
  - ECE major
  - EGM-Mfg, SAN or EC
  - General Engineering
  - Undecided SEAS

- Why take CHM?
  - CPB major
  - EGM-Env or PSE
  - Pre-med interest

- PHY 181F (4 hours)
- PHY 183L (1 hour)

- CHM 141 (3 hours)
- CHM 144 (2 hours)

^ General Engineers wanting pre-med should start in CHM141/144
Intro to Programming?

- CSE 174 (3 hours)
  - CSE Major
  - ECE Major
# Math Placement

In the advising table below, I and II refer to Placement Tests One and Two, and I + II denotes the sum of your scores on I and II.

<table>
<thead>
<tr>
<th>If you plan to</th>
<th>and you have passed these high school classes</th>
<th>and have these scores on I and/or II</th>
<th>then take</th>
</tr>
</thead>
</table>
| Take a calculus course | a) a year of calculus, including log, exponential, and trig functions  
(b) three and one-half or four years of math with trig but little or no calculus  
(c) three or four years of math including some trig  
(d) less than three years of math | I + II from 35 to 45 or 4-5 on  
AP Calculus AB  
I + II from 16 to 34 | MTH 249 or 249H  
MTH 151  
MTH 123  
MTH 104  
MTH 102 |
How do I construct my schedule?

• What if I want flexibility to consider other majors?
  – CPB & ECE departments’ majors are more restrictive than MME & CSE departments’ majors
  – If you’re considering multiple majors, start with the major with the most restrictive curriculum
Other academic issues

• Only General Engineering requires a foreign language
• Make sure you discuss ROTC, athletics, band, etc. with your adviser(s)
• If you plan to study abroad or study during the Winter Term, map your schedule ahead
• If you have/expect AP or PSEO credit, let advisers know
  • English Portfolio program might be an option for you
Tonight's homework:

• Fill out page 41 of the guidebook
  – Figure out your most likely major
  – Find the curriculum guide for that major
  – Write down your best estimate of your first semester
  – If taking a Miami Plan course, have plenty of backup courses listed

• Be prepared to discuss p. 41 with your adviser on Day 2
What happens now?

• Math Placement Test
  – PLEASE take this…some class registrations depend on it (CHM141, for example)
• Optional activities on your schedule
  – Academic Exploration with other divisions
  – Pre-med (incl. info about Pre-med co-major)
  – Etc.
Here’s what happens tomorrow...

• You have a scheduled individual advising session
  – Show up 5-10 minutes early to check in
  – Find 204 Benton and wait for adviser to get you

• Discuss your situation with your adviser
  – Career, major, AP, math placement, study abroad, athletics
  – Leave the meeting with your scheduling game plan

• Head to 10 Benton to register for your fall courses
  – Faculty/staff will be there to assist
  – Leave with your schedule!!
Thank you for joining us!!!

Please take with you:
  • Dr. Kirk’s business card
  • Any curriculum guides of interest
  • Any other handouts of interest
  • All of your stuff