Today’s Orientation

Understand Mechanical Engineering academic and research programs
• Objectives of BSME and BSEM programs
• Curricular requirements
• Concentrations
• Understand the freshman year

Define advising procedures

Become familiar with the Department
• Meet the faculty, staff, and other students
What We’ll Present

• Department of Mechanical Engineering at Johns Hopkins
• B.S. Mechanical Engineering
• B.S. Engineering Mechanics
• Concentrations and Minors
• Advising
• Research Programs
The Department of Mechanical Engineering

Our people:
• 23 professors / senior lecturers
• 11 staff members
• 24 postdoctoral students
• 131 graduate students
• 274 undergraduate students

Our goal:
• Provide outstanding education in a leading-edge research environment.
Where We Are

**Mechanical Engineering** - Latrobe Hall

**Administrative Offices** – 223 Latrobe

**Instructional Labs** – Krieger and Wyman Halls

**Senior Design Lab** – G-06 Wyman

**Research Labs** - Latrobe, Krieger, Maryland and Hackerman Halls

**Machine Shop** – Wyman Hall
Two accredited degrees

Mechanical Engineering (B.S.M.E.)
Engineering Mechanics (B.S.E.M.)

Accredited by ABET (Accreditation Board for Engineering and Technology)

ABET defines the minimum standards that must be met by an engineering degree program.
Compare the Majors

• Mechanical Engineering (B.S. M.E.)
  - Broad public acceptance
  - Well-specified curriculum
  - Enter work-force with a B.S.
  - About 300 programs nationwide
  - “Concentrations” within electives

• Engineering Mechanics (B.S. E.M.)
  - More flexible curriculum
  - Graduate studies; double majors
  - Seven programs nationwide
B.S. Mechanical Engineering

- Humanities /Social Sciences (18 credits)
- Mathematics (19)
- Science (12-13)
- Required Engineering Courses (51)
- Mechanical Engineering Electives (9)
- Technical Electives (9)
- Senior Design (8)

INFO...
- Undergraduate Academic Advising Manual
- Your Advisor
B.S. Engineering Mechanics

- Humanities /Social Sciences (18 credits)
- Mathematics (23)
- Science (16)
- Required Engineering Courses (26)
- Engineering Mechanics Electives (6)
- Engineering Science Electives (12)
- Technical Electives (18)
- Senior Design (8)

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Concentrations

The Mechanical Engineering Department offers official concentrations in ...

- **Aerospace Engineering**
- **Biomechanics**

...plus other electives in robotics, mechanics of materials, design, thermo-fluids and thermo-fluids systems.

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Minors and Double Majors

Some minors...
- Entrepreneurship and Management
- Robotics
- Sustainable Development
- More in Engineering /Arts and Sciences
- Physics
- Mathematics
- Economics

Double majoring possible, but...
- Lots of extra work and time management
- Easier for Engineering Mechanics majors
- Easier with many AP credits

• Fields of Study page – engineering.jhu.edu
• Majors/Minors page – advising.jhu.edu
Senior Design

• Senior Design (8 credits, full year)
• Industrial Sponsor provides
  - project definition
  - a contact engineer
  - $15,000+ in funding
• You, as part of a team design, build and test prototypes and final products.
• Real world; integrates all tools

INFO...
• Dr. Nathan Scott – nscott@jhu.edu
• Web - http://www.me.jhu.edu/design.html
Academic Advising

- You have a faculty advisor, who remains with you throughout your academic program.
- Most of you will meet your advisor today.
- Each of you has an appointment. Please keep it or reschedule.
Academic Advising

Visit your advisor at least twice a semester...

• after three weeks, to update your status
• during Advising Week, to choose courses

See your advisor anytime...

• to plan or change your course schedule
• to discuss requirements for your major
• when you have an issue about academics or performance

Visit Mike Bernard...

• to create or update your 4-year plan
Academic Advising

- The responsibility for meeting with your advisor is *yours*.

- Schedule meetings with your advisor in advance – do not wait until the last moment; he or she might not be available.

INFO...

*Undergraduate Academic Advising Manual*
Research in Mechanical Engineering

- Micro/Nanoscale Science and Engineering
- Fluid Mechanics and Heat Transfer
- Mechanical Engineering in Biology and Medicine
- Energy and the Environment
- Robotics
- Mechanics and Materials
Undergraduate Research Opportunities

• Earn credits or money while doing research.
• Undergraduate Research in all MechE research areas
• Begin as early as freshman year
• Primary qualification is enthusiasm
• Talk to the faculty!
• Research helps you...
  - Get a hands-on, real-world feel for engineering
  - Build a working relationship with the leading scholars in the field
References and Contacts

• Your Advisor

• Mike Bernard: mike.bernard@jhu.edu

• JHU Online Catalog: http://e-catalog.jhu.edu/

• “Engineering 101”

• JHU Undergraduate Student Handbook

• Undergraduate Academic Advising Manual

• JHU Website: http://www.jhu.edu

• MechE Website: http://www.me.jhu.edu

• “Top 12” for Undergrads – http://me.jhu.edu/t12/top-12-undergraduate-students/
Best of luck to you this freshman year!

Questions?