

Workshop Quick Facts

Date:
Saturday, September 6

Check-In & Morning Refreshments:
8:00 - 8:30 a.m.

Location:
Alumni Memorial Union
2nd Floor Rotunda

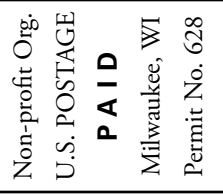
Program Time:
8:30 a.m. - 12:30 p.m.

Cost:
\$20 per student
submit payment at check-in

Lunch:
Provided for students and guests

More Information:
www.marquette.edu/explore

To Register, Call the Admissions Office:
800/222-6544



Office of Undergraduate Admissions
Marquette Hall, 106
P.O. Box 1881
Milwaukee, WI 53201-1881



**Marquette University
College of Engineering**

Engineering Workshop

**September 6, 2008
8:00 a.m. - 12:30 p.m.
Alumni Memorial Union**

Just for students,

Apply virtual concepts to the real world? ... Utilize digital sensors to provide accurate measurements?
... Protect the environment through engineering?

Through a special workshop offered by Marquette's College of Engineering, the opportunity is yours. It's a program designed to give you a chance to feel like a college engineering student - without all the homework. You will discover more about engineering, what you can do in it and how Marquette can help you create your future.

Just for parents,

After students depart for the morning workshop, we'll offer a short information session hosted by engineering faculty and admissions staff. A optional campus tour for parents will follow.

Your student will meet you for lunch at the conclusion of the morning workshop. After lunch, optional campus tours will be available.



Workshop Sessions

Students may choose to attend one session based on a first-come first-serve basis.

Biomedical Engineering (30 spaces)

Students will be introduced to the three major fields within Marquette's program. They will participate in experiments in:

Biomechanics - Students will learn about the techniques of data acquisition and analysis in the areas of human postural stability and human motion (gait).

Bioelectronics - Students will learn about electrical and mechanical body signals. Specifically, the electrocardiogram (ECG) will be monitored on each student. Students will calculate heart rate and determine the electrical axis of the heart.

Biocomputing - Students will be introduced to the field of medical imaging. They will see how computer programming is used to process, filter and reconstruct images used in diagnostic medicine and research.

Construction Engineering (25 spaces)

Build (and then BUST!!) a balsa wood bridge. Practice your construction engineering skills while trying to build a model bridge out of balsa wood. The bridges will be tested to see how much weight they can support. Students will have the chance to design their own bridge then using hot glue guns, actually build it. Finally they will be busted using a dead load.

Environmental Engineering (12 spaces)

Learn about environmental engineering and processes that protect rivers, lakes and streams. You'll work hands-on in the lab measuring oxygen up-take by fish and oxygen transfer to water using fine-bubble aeration. Then, go into the computer lab and analyze the data to design a simple aeration system providing oxygen for fish to survive.

Electrical Engineering (25 spaces)

Students will build a circuit that converts a 4-bit binary number to a decimal number. A programmable chip will be used with a seven segment display. The workshop will include theory on binary numbers, development of a truth table showing the relationship between binary and decimal numbers, programming a 16V8 chip, and the building of the circuit.

Computer Engineering (20 spaces)

Students will design, build and play their own video game using open source software.

Mechanical Engineering — Manufacturing (12 spaces)

This segment will cover the role of mechanical engineers in activities related to product manufacturing. Although many processes are used, materials joining is employed in a broad range of products and the focus in this segment will be on welding. As part of the activity, students will spend approximately half of their time in the joining lab using arc welding equipment to develop an appreciation of engineering related fundamentals in arc welding processes and how they affect the manufacture of products such as automobiles.

Mechanical Engineering — Mechatronics (16 spaces)

Students will be presented with a number of case studies and design challenges which show how mechanical engineers apply physical principles to create useful devices and machines. Following a presentation we will demonstrate a number of mechanical and electro-mechanical systems, including magnetic levitation, in the Mechatronics Laboratory. Students will engage in an activity to build a DC motor

Schedule of events

8:00...8:30

Check-In
Alumni Memorial Union
2nd Floor Rotunda

8:30...9:00

Introduction to Engineering
Weasler Auditorium

9:15...11:30

Students: Engineering Workshop
Parents: Information Session

11:30...12:30

Lunch & Student Panel
Marquette Place
2nd Floor

12:30

Engineering Open House Continues
Optional Campus Tour Leaves at 12:30 pm

**SPACE IS VERY LIMITED!
CALL THE ADMISSIONS
OFFICE TO REGISTER**

800/222-6544



Due to the nature of the workshops, space limitations are required. Session placement is on a first-come first-serve basis. We're sorry but no changes to workshop sessions can be made at check-in. When calling please have at least one alternate session in mind.