With Your Support, MIE students will:

• Become leading producers of the “next great ideas” across the entire spectrum of mechanical and industrial engineering technologies, continuing to win awards for their designs and bring local, state and national attention to their projects.

• Access a hands-on, innovative environment with advanced manufacturing technology which makes possible collaborative projects on a scale not possible both within the Department and more broadly across the College—learning critical team and interdisciplinary skills.

• Receive the real-life experience that lets them start their careers with the design, prototyping and manufacturing skills that are critical to their long-term professional success.

• Be among the best and brightest in Massachusetts and around the country, sought after by major companies around the world because of their creativity, and their advanced training in the Innovation Shop.

Why I support the MIE Innovation Shop:

“We are beginning a new era when it will be more attractive to manufacture products here in the United States than offshore. In order to advance this goal, the skills required must be taught. Engineers must learn the manufacturing ‘processes which have been neglected in our educational institutions for too long.’”


“‘At Altra Industrial Motion the link between design engineering and manufacturing is absolutely critical to creating value for our customers. Engineers that have hands on experience with the latest manufacturing and development technology are essential and will ensure that we remain innovative and globally competitive.’”

Carl R. Christenson, ’82, ’84G, President & CEO, Altra Industrial Motion

To support the MIE Innovation Shop or get more information, contact:

Paula Sakey, Director of Development
UMass Amherst College of Engineering
psakey@ecs.umass.edu / 413-545-6396

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MECHANICAL AND INDUSTRIAL ENGINEERING INNOVATION SHOP

Where today’s challenges can become tomorrow’s solutions.

Many innovations crucial to the future of society will have their roots in the world of mass, motion, forces, energy and people – the world of mechanical and industrial engineers. Today’s engineering students want to use those roots to tackle real problems and develop real solutions – particularly as demand for US manufacturing rises.

With your support, the MIE Department at UMass Amherst is creating an environment where they can do just that.

The MIE Innovation Shop in the College of Engineering will provide space outfitted with an inventory of state-of-the-art tools, instruments, and computers to support mechanical and industrial engineering projects – including all their design, modeling, manufacturing, and testing activities.

Spanning graduate and undergraduate education, the new Innovation Shop will:

• Accommodate labs and classes for our core design courses;
• Create a space where classroom knowledge transforms into practice;
• Help current students retain their passion for engineering as they take rigorous traditional courses;
• Allow students to demonstrate real-world design/build skills and use those skills to advance their careers after they graduate.

Learning by doing.

Practical and innovative training prepares engineers for success. Leveraging sophisticated manufacturing equipment used in today’s industry to realize innovative designs is an integral part of a UMass Amherst MIE degree.

The Innovation Shop provides a safe, interactive, creative environment where students can explore ideas and develop themselves as practicing engineers. Housed in the lower level of the ELab, the Innovation Shop will offer cutting-edge equipment:

• 3-Dimensional Printer – rapidly builds three dimensional plastic prototypes directly from computer models;
• Waterjet Cutter – quickly slices metals and just about any other material into intricate 2-dimensional parts; and
• Computer-Controlled 4-Axis Mill – enables high-accuracy and complex 3-dimensional shapes to be fabricated from solid materials.

The shop itself will provide open, configurable spaces to foster a collaborative working environment where solutions take shape.

Some of the projects MIE students have initiated using their shop training include:

• The MIE Super-Mileage Vehicle, a vehicle which has gotten up to 1,100 miles per gallon;
• A new clutch that allows higher harvesting capacity in John Deere combine harvesting tractors;
• A universal attachment for ladders which will maximize safety for the consumer;
• A meter to accurately calibrate the position and power of a 10 kW laser;
• An assistive walker that allows users to navigate stairs.

Your contribution will enable the Innovation Shop to prepare today’s engineering students for tomorrow’s design challenges.
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