

# Summer II 2008

## ENGR 295 Discovering Advanced Manufacturing

*Online course designed and open for college students from different disciplines as well as non-college/high-school students*

Course prerequisites are Math 111 or equivalent (e.g. 2 years of high school algebra), and basic computer skills.

([http://www.engr.iupui.edu/me/newmerl/aeml\\_projects.htm/.....](http://www.engr.iupui.edu/me/newmerl/aeml_projects.htm/.....))

### School of Engineering and Technology, IUPUI

## Making It, Better

It's not your father's factory floor. Advanced manufacturing seeks workers with new skills.

by Erik Hromadka

INDIANA HAS TRADITIONALLY been a manufacturing state with an economy that relied heavily on auto and steel production. Such jobs used to provide long-term security with good wages and generally attracted those who left high school for work instead of college.

Today, Indiana still relies on manufacturing for approximately 20 percent of the state's jobs. However, those positions are increasingly being filled by skilled workers with specialized training in



(Above) Article in Inside Indiana Business: Advanced Manufacturing is key to global competition and Training a highly skilled workforce is key to Advanced manufacturing.

The increasing competition for a market share in the global economy has dictated the need to enhance product development, including the implementation of advanced manufacturing. The latter is characterized by the use of complex machines and equipment that are typically computer-based/computer-controlled, the fabrication of high tech products, the development of new processes, and the optimization of production. *Discovering Advanced Manufacturing* provides insight into the world of **advanced manufacturing** by looking at underlying technologies and processes (e.g. CAD/CAM, CNC, Rapid prototyping), and their applications. Practice and skills' building take place in a **virtual reality Lab**. The course is designed for students from **different disciplines** and educational background/levels who are interested to learn about advanced manufacturing technologies, applications, and opportunities. **High-school students** can receive **Purdue credit** upon successful completion and admission to the School of Engineering & Technology at IUPUI. Mechanical Engineering students receive credit towards a **free elective**. The **course prerequisites** are Math 111 or equivalent (e.g. 2 years for high school algebra), and basic computer skills.



Dr. El-Mounayri, course instructor, discussing new technology for effective education in advanced manufacturing on Inside Indiana Business (above). The Online virtual reality based training environment for providing such an education is used in ME 297 (below).



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