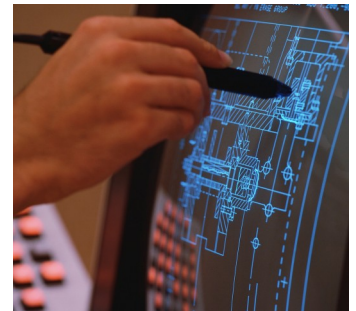


Special points of interest:

- Fab Lab opens!
- “You and Improved” campaign
- Learning Projects

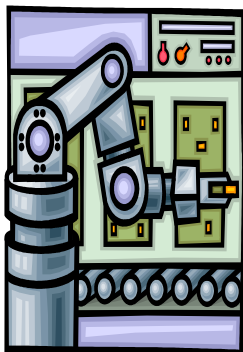
TIME Center Partners with ITEEA

The TIME Center and the International Technology and Engineering Educators Association (ITEEA) continue their joint efforts to better prepare technology education teachers to teach new curriculum. Last year, the TIME Center and ITEEA jointly offered a workshop on writing assessments. This year they are coordinating a workshop on Foundations of Technology using the Engineering by Design™ (EbD) curriculum. Participants will learn the content of the course, how to work with others in real time from all across the country, and how to use the assessments to understand student needs. There will be two different workshops offered: one at Reservoir High School in Howard County in June, and one at North Carolina High School in Caroline County in August. Costs vary depending on membership in the EbD network. For information contact Barry Burke at bburke@iteea.org.



Summer Robotics Workshop

The TIME Center will partner with California University of Pennsylvania to offer a week-long robotics workshop for Technology Education teachers from Baltimore County and Carroll County School systems. The workshop is a pilot program to help teachers learn more about programming robots. With this knowledge they will be able to assist students as they prepare for the various robotic competitions and see how the robotic concepts and programming can be added to their curriculum. The workshop will take place on the CCBC Catonsville campus beginning June 27th. Instructors will receive a stipend for attending.



For more information, contact: Doug Handy at dhandy@bcps.org or Ted McNett at ecmnet@carrollk12.org

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Fab Lab

Fab Lab Opens!

On January 13, 2011, the Community College of Baltimore County (CCBC) – Catonsville held the grand opening for a new Fab Lab. A Fab Lab (fabrication laboratory) is a high-tech workshop where entrepreneurs, product developers, inventors, and business people can make prototypes of their inventions.

Sherry Lassiter, program manager at MIT's Center for Bits and Atoms (CBA), joined the Ribbon Cutting via video conference, welcoming CCBC as the latest Fab Lab. Other virtual attendees included people from Fab Labs in Barcelona, Amsterdam, and Nairobi as well as Lorain County Community College in Ohio, the first U.S. community college to establish a Fab Lab. More than 100 local business and industry personnel, CCBC faculty and staff, and CCBC students attended the ceremony and open house. Michael Raphael of Direct Dimensions was the keynote speaker along with CCBC President Dr. Sandra Kurtinitis. Funding for CCBC's Fab Lab came from CCBC and the TIME Center (funded by the National Science Foundation).

The equipment at the CCBC Fab Lab includes: high-end design workstations, 3D Printer, Vinyl Cutter, Laser Cutter, RapidMill, ShopBot, and other manual mills and lathes. Tools to be added in the near future include: Plasma Cutter, 3D Scanner, and a MakerBot. An added plus is the use of a video conference to Fab Labs all over the world. If someone has a problem on a project, or wants to further explore an idea, he can talk with people in other Fab Labs.

What's Next?

CCBC's Fab Lab will be open to the entire community, provided an introductory class is

taken on how to use the equipment. This class, "FAB LAB Introduction," will be offered for the first time on February 7, 2011, and every subsequent 1st and 3rd Monday of each month. There will be two sections: 12pm, and 4pm. The class will cover safety and equipment operation.

Doug Kendzierski, Applied Technology Department Chair, gives an outline for the future of CCBC's Fab Lab: "We anticipate additional non-credit (i.e. Vinyl Cutter Applications, 3D Printer Applications, RapidMill Applications, etc) and credit courses, which will likely involve multiple disciplines (ADIM [Art Design and Interactive Media], CAMM [Computer Aided Manufacturing and Machine], CADD [Computer Aided Drafting and Design], Engineering Technology), as each discovers ways to utilize the equipment. We anticipate offering workshops to faculty in the near future, designed to spur their thinking along these lines. There will also likely be business courses coming out of the school of Business, Social Science, Wellness, and Education (BSSWE), as they complete our services with entrepreneurial courses that cover areas like production planning, business plans, chasing venture capital, intellectual property/patents, marketing a product, etc..."

The Fab Lab has will give the community an opportunity to promote new ideas, mature ideas into designs, develop designs into prototypes, and maybe produce new products to enrich the economic development of the region.

For more information, contact:
Doug Kendzierski, Applied Technology Department Chair: DKendzierski@ccbcmd.edu
Bill Werneke, Applied Technology Manufacturing and Technology Coordinator: wwerneke@ccbcmd.edu

TIME Center Partner Updates

Wor-Wic Community College:

Energy Technology— Wor-Wic is now offering a new program in energy through its department of Environmental Science. Environmental energy technicians are a commodity in increasing demand in today's job market. They have opportunities as electrical, electronics, manufacturing, automation and industrial technicians. Topics are taught within the fields of technology and the field of science to minimize

the adverse effects of human activity on the environment. Environmentally-sensitive, sustainable manufacturing is studied. This program is skill and knowledge based and is rooted in AC and DC electric circuits, hydraulics, geographic information systems, solar, wind and other renewable energy systems.

For more information, contact Don Nicholson; dnicholson@worwic.edu.



Uprint Plus 3-D printer, one of the FAB Lab pieces of equipment

TIME Center Partners:

- Chesapeake Community College
- College of Southern Maryland
- Community College of Baltimore County
- Harford Community College
- Wor-Wic Community College

You and Improved

“You and Improved” is a pilot career campaign, exploring effective ways to attract students to CCBC’s, training programs in manufacturing and engineering technology. The TIME Center, Maryland Business Round Table for Education (MBRT), and SNS marketing worked together to create the “You and Improved” campaign.

The pilot is currently being implemented in all Baltimore County High School’s technology education classes and guidance offices. Posters and brochures provide information about careers and direct students to the landing page time-center.org/pursue. The student can explore Community College of Baltimore County’s (CCBC) four automated technology programs: Engineering Technology, Electronics, Computer Aided Design and Drafting (CADD), and Computer Assisted Machining and Manufacturing (CAMP). Each program has a webpage with a video, description of the program, and contact information for the program coordinator. The goal is for 20% of those who go to the website to enroll in courses at CCBC.

Skilled automated technology professionals are in demand, as the world shifts from mass production to mass customization – the customer asking for unique requirements. These skills allow automated technicians to use technology to monitor and control the creation of products and services.



The TIME Center will track students who have enrolled in any of the four programs as a result of the “You and Improved” campaign. Based on those results, the partner colleges may create their own landing page and use the materials to implement the same program with their high schools. Interactive videos and games may be added in the future to the landing page to create more interest in these programs.

Visit CCBC’s landing page at www.time-center.org/pursue.

Learning Projects

The TIME Center is again providing funding for secondary and post-secondary instructors to gain professional development through the *Learning Projects*. Projects this year include research for such ideas as manufacturing projects, robotic projects, and an energy project on how to make the school gym a “green gym”. In addition, scholarships are given through the Maryland Center for Career and Technology Education Studies (MCCTES) to teachers to update their technical and safety knowledge and skills. Reports and lesson plans are submitted and placed on the TIME Center website.

See the website: www.time-center.org for *Learning Projects* from previous years.



Eric Readyhough’s Learning Project for this year was to develop a lesson for his students to use Solidworks, GibbsCamm, and a Haas CNC lathe to design and make brass darts.

Upcoming Events

High Impact Technology Exchange Conference

Educating America's Technical Workforce

July 25–28, 2011 • Hyatt Regency • San Francisco

This national conference is a unique opportunity for community and technical college educators and stakeholders seeking professional development opportunities, educational materials, collaborative ventures, and insights into emerging market trends to develop and advance the technical workforce of the 21st century. For registration information go to: www.highimpact-tec.org

Harnessing the Power of Green

ENV 347 CRN 41184, April 4, 2011 8am – 1:15 pm, Hunt Valley Center

Learn to reduce environmental waste in organizations and create an environmentally sustainably "green" enterprise through using a variety of tools, including Value Stream Mapping, Kaizen events forming Green Teams. Total Cost: \$139

Introduction to Fab Lab, VOA 843, Cost \$99.00 Catonsville Campus

A 3 hour course offered the first and third Mondays at 12 noon and 4 pm. This course provides safety and equipment information for those who wish to use the Fab Lab. Register at <http://www.ccbcmd.edu/ceed/index.html>

Engineering Challenge for the 21st Century Teachers

Dissemination Program The Connecticut College of Technology's Regional Center for Next Generation Manufacturing and the United States Coast Guard Academy are again hosting this exciting program, July 10, 2011 through July 15, 2011 at the US Coast Guard Academy in New London, CT. This is a professional development opportunity for community college faculty and high school teachers to engage in problem based learning exercises while learning how to successfully integrate professional skills into your curriculum. To access the program flyer, please visit the website at www.nextgenmfg.org.



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