

Indiana State University

2004 - 2005 Academic Annual Report

Department of Manufacturing & Construction Technology

Year in Review

Accomplishments

As you have heard, increasing public awareness of Indiana State University's accomplishments is crucial to building student enrollment, influencing policy makers, and developing a place of pre-eminence in the Midwest. What do you consider to be your department's 5-10 top accomplishments for the 2004-2005 year that will help contribute to this effort?

1. Re-accreditation (6 years) for the Manufacturing Technology and Computer Integrated Manufacturing Technology programs by the National Association of Industrial Technology. Faculty are currently working on the two-year report. 2. Helped MCT students (undergraduate and graduate) receive over \$29,000 in scholarships. 3. Seven MCT faculty served on a total of 5 off-campus committees, and 24 on-campus committees. 4. MCT faculty held three active leadership positions in regional professional associations and three leadership positions in national/international professional associations. 5. Five graduate faculty in the MCT department are teaching M.S. and Ph. D. courses and serving on numerous graduate committees. 6. Articulation (transfer) agreements are being updated with Ivy Tech and Vincennes University and new agreements are being formed with many other two-year schools. 7. Industrial Supervision (Degree Link) Program continues to serve a need for distance students. 8. MCT faculty published five articles in professional journals/conference proceedings and presented seven papers at national conferences. 9. Faculty are advising the following student clubs: Sigma Alpha Chi, Society of Manufacturing Engineers, ISU Construction Club. 10. Outreach programs in the community include the Vigo County Explorer Program, Parke-Vermillion Manufacturing Club, SME Hovercraft and several others. 11. MCT faculty are involved in planning for a new program in Transportation, Distribution and Logistics. 12. MCT faculty are involved in planning the Center for Automation and Systems Integration. 13. Experiential Learning is a key part of all MCT programs. This year we had 35 students do a cooperative work study/internship. 14. Two MCT faculty were nominated to "Who's Who Among America's Teachers", by their students.

Research and Scholarship

What is your assessment of accomplishments in the area of research and scholarship? Are you satisfied overall? In which areas do you feel your department does particularly well? In which areas do you feel your department needs to improve?

During 2004-2005 MCT faculty published five articles, presented seven papers at conferences and received one grant. They attended a total of 13 conferences, held leadership positions both on and off campus and got re-certified in OSHA, APICS and SME. I believe given the teaching loads, advising, and service responsibilities faculty are doing pretty well. I would like to see more faculty doing research and scholarship and I will continue to encourage this. I believe the department is doing pretty well in articles published and papers presented. In particular, I believe our graduate faculty need to increase their level of research and scholarship.

Grants, Contracts & Off Campus Professional Service

What is your assessment of accomplishments in the area of grants, contracts, and off campus

professional service? Are you satisfied overall? In which areas do you feel your department does particularly well? In which areas do you feel your department needs to improve?

Faculty in the MCT department submitted a few grants in 2004-2005. It would be nice to see more faculty involved in grant writing. Off campus professional service includes 4 offices held in regional, national and international organizations, 8 committee memberships, 5 special responsibilities and 4 consultantships. I am pleased with the level of off campus service for most MCT faculty. I believe we are doing off campus service very well. We can improve in grant writing.

Best Practices

Describe the progress your unit has made thus far. Were you able to take these steps? What steps or goals have been particularly difficult to achieve and why? What practices, actions, initiatives are you doing that could be considered eminent?

We were able to take these steps. Students were able to receive mentoring in certain MCT classes. In regard to diversification of student population, our new departmental brochures include female and minority students to convey the message that programs in the MCT department provide good opportunities to students regardless of race, gender or ethnic origin. Two programs in the MCT department were evaluated for re-accreditation by the National Association of Industrial Technology. The decision was made not to apply for re-accreditation for the Printing Management Program. Re-accreditation is always a time consuming process in preparation of the self-study and all the course portfolios. However, it is necessary to maintain programs with high standards. A School of Technology Honor Program is scheduled for April 25, 2005 to recognize exceptional students. The MCT department has many students that will be in attendance and receiving awards. Five faculty in the MCT department are involved in the Ph.D. in Technology Management program which is becoming an eminent program. We also have an undergraduate degree in Industrial Supervision that is a Degree Link program. I anticipate this program will satisfy a real need in Indiana and will grow into an eminent program. The program in Computer Integrated Manufacturing has real potential to grow into an eminent program, especially given the push in Indiana for advanced manufacturing.

Student Credit Hours

What did you learn? What steps will you take during 2004-05 to meet your department's student credit hour target by fall 2005?

The MCT department met the targeted student credit hour production during the 2004-05 academic year. An effort will be made to maintain this level of productivity. We will do this by recruiting more students into our programs, solidifying articulation agreements with Ivy Tech and Vincennes University, and providing support courses for other departments.

Budget

Identify and describe any collaborative efforts that have been undertaken by your department with other academic or administrative units to maximize resources to meet departmental goals. Please also consider collaborative opportunities with external partners.

1. The Computer Integrated Manufacturing program involves three departments (MCT, ECT and IMT) in the School of Technology. 2. Two of our courses (MCT 131 and 133) are involved in Learning Communities with Economics 100 and Communications 101. 3. The department is updating articulation (transfer) agreements with Ivy Tech and Vincennes University and looking at establishing other transfer agreements with other community colleges. 4. The department is heavily involved in the Ph.D. in Technology Management program which is a consortium that involves four other universities. 5. Through the Vigo County Explorer Program, the department is working with

17 industry partners, secondary schools and post-secondary schools in a partnership to promote machining and manufacturing. A Faculty Fellow grant for this program was submitted to the Center for Experiential Learning and Community Service. 6. Our department shares a Master's Degree program in Industrial Technology with the IMT department. 7. The IMT and MCT departments are two departments in the COT with a lot of similarities. IMT focuses more on design, mechanical and engineering technology where MCT focuses more on manufacturing, automation and management. Nonetheless the two departments are working harder to determine ways in which we can work together to maximize our resources. 8. Faculty in the MCT department have been part of the inter-departmental team to investigate the creation of a new program in Transportation, Distribution and Logistics.

Outreach

What are the outreach opportunities for your discipline? (non-traditional modes of delivery and timing, etc)

Faculty in the MCT department teach courses, advise students and serve on committees for the Ph.D. in Technology Management Program. This is a web-based distance education program. We have an undergraduate Degree Link program in Industrial Supervision. This is a distance education program geared toward people with a degree (A.S. or A.A.S.) in a technical area that are working and want to further their education by completing a B.S. degree. The MCT department also shares the MS in Industrial Technology program that is a web-based program. MCT faculty and students are involved in other outreach activities such as the Vigo County Explorer Program, Parke-Vermillion County Explorer Program, SME Hovercraft, and March of Dimes fund raising. I believe there are many opportunities for faculty to do consulting.

Assessment

For each program in the department, provide one or two examples of how the program is using assessment and evaluation (student outcomes, program review, and/or accreditation) to enhance student learning and program strength this year.

I wasn't here when the 2001-02 Assessment report above was created, however, our department does not have any of those programs listed. The five programs I listed in last years report (above paragraph) are the programs in the MCT department. Now, to answer the question: 1. BS in Construction Management: Re-accredited by the American Council for Construction Education for six years (February, 2003 to February, 2009). The next re-accreditation team visit will occur in fall, 2008. The first year report was submitted and accepted and the third year report is due December 15, 2005. The construction management faculty are in the process of addressing the weaknesses cited in the final report. The faculty have been working closely with Sean McKitrick to develop a complete quantitative and qualitative assessment plan. Alumni for the past five years are currently being surveyed. 2. BS in Manufacturing Technology: Re-accredited by the National Association of Industrial Technology for six years (November, 2004 to November, 2010). The next re-accreditation team visit will occur in spring, 2010. A two year report is due in 2006. The Manufacturing faculty are currently working to address all partial and non-compliance standards. Faculty are in the process of developing a total assessment plan which will include quantitative and qualitative assessment. 3. BS in Computer Integrated Manufacturing Technology: Same as number 2. 4. BS in Industrial Supervision: This program is not accredited. The plan is to have the program go through the ISU undergraduate program review in the spring, 2006 semester. Faculty are in the process of developing a total assessment plan which will include quantitative and qualitative assessment. 5. BS in Printing Management: MCT Faculty voted to eliminate this program.

Strategic Initiatives

Development Activities

What steps have you taken to support development activities in your department? How can your efforts be supported?

We work closely with the College of Technology development officer in support of development activities. We attend functions such as the Emeriti Breakfast, the Terre Haute Air Show, Honor Day activities and other events in support of development. In addition, this year I traveled to Texas to visit with a few alumni that work in high positions at Lockheed Martin and General Motors. The MCT website promotes our advisory boards, alumni and will soon have a link for alumni to update their personal information. MCT faculty are always interested in developing relationships with alumni and friends of Indiana State University. The biggest support would be financial to encourage faculty to participate more in development activities.

Experiential Learning

Please provide examples of experiential learning in which your department was engaged in 2004-2005.

Cooperative Education-approximately 35 MCT students completed a co-op/internship experience during 2004-05. Active approaches to learning through case study teaching, simulations and tours of local manufacturing facilities and construction sites. Many MCT classes have laboratory requirements. Other classroom activities include projects or writing assignments that involve examining a real-world issue by applying skills required of a working professional. ISU students built a doghouse for the March of Dimes raffle, worked on a service project to refurbish a home in West Terre Haute, continued work on the Hovercraft, built a mobile robot for competition at the NAIT conference in November, 2005, and helped with other outreach activities.

Future Goals

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The University is highlighting experiential learning, community engagement, and eminent programs as aspects of our campus that will attract students and resources. How is your department planning to contribute to these strategic initiatives in ways that will help ISU be recognized as a Pre-eminent University?

1. The MCT department requires a cooperative work-study in two of our programs, construction management and industrial supervision. It is strongly encouraged in the other programs. We will continue to extend partnerships with schools, businesses, industry, and other agencies through co-op programs, internships, and research and development projects to expand access to higher education and better prepare our future workforce.
2. MCT faculty currently involve undergraduate and graduate students in projects, research and presentations at national conventions.
3. We will be creating a capstone course that will include some creative projects/class assignments.
4. Student clubs get involved in service projects such as Rebuilding Together and Habitat for Humanity.
5. MCT students compete in regional and national events such as the National Assoc. of Home Builders and AGC-I the Great Lakes Region III Conference.
6. The department will continue to stay involved in the Vigo County Explorer Program which involves 17 industry partners, secondary and post-secondary schools.
7. The department will continue to stay involved in the Parke-Vermillion Explorer Program.
8. Faculty in the department will work with two other departments to develop the Center for Systems Integration that will help support economic development in the region.
9. Faculty in the department will work with the IMT department to develop a program in Transportation, Distribution and Logistics that will help support economic development in the region.