

# Indiana State University

2004 - 2005 Academic Annual Report

Department of Electronics & Computer 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. Received re-accreditation for: a. Electronics Technology B.S. b. Computer Hardware Technology B.S. c. Electronics and Computer Technology A.S. 2. Finished development of all junior and senior-level electronics technology courses for web-based delivery as part of the Electronics Technology B.S. degree completion program. 3. Developed and initiated scholarship drive to acquire funds for support of electronics and computer hardware technology scholarships. 4. Developed and offered all related ECT courses for the Information Technology B.S.

### 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?**

The ECT Department is actively involved in research and scholarly activities. During 2004: Dr. William Clyburn Type Refereed Status Title Journal Volume ISS Number year Pages Author Order Summary writer 1 published Industrial Robotics in the 21st Century: A View from the middle. Selected Papers of the NAIT 37th Annual Convention 37 1 2004 177-180 Clyburn, W. and Harris, S. Status of industrial robotics in the United States. Title Organization Location Date Presenter Order Summary Industrial Robotics in the 21st Century: A View from the middle. NAIT Louisville, KY 10-20-2004 Clyburn, W. Harris, S Examined the status of industrial robotics in the United States Dr. Gerald Cockrell Award Type Title Sponsor Award Date Description scholarship CAP (Certified Automation Professional) ISA The Instrumentation, Systems, and Automation Society 11-11-2004 Dr. Reza Raeisi Title Organization Location Date Presenter Order Summary Using Verilog Neural Networks Model for Digital Logic Circuits National Association of Industrial Engineering Louisville, Kentucky 10-20-2004 Dr. Reza Raeisi The objective of this presentation is to first discuss neural network modeling of logic circuits, and then the illustration of how such models can be used for the verification of digital logic circuits. Award Type Title Sponsor Award Date Description research Applied Research Grant Award Dean-College of Technology 04-22-2004 research Digital Design Lab Improvement Chair, ECT Department 10-01-2004 scholarship Developing International Research and Teaching Collaboration International Affairs Center 12-15-2004

### 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?**

During 2004, in the ECT Department Grant ID Principle Investigator Title Role 04-01-0118 Dr. Richard Easton Building the Technology Workforce in Indiana CoProject Director (Note this grant

has not yet been funded) William E. Croft Linkage with Advisory Center for Human Resources of Honduras Director (this grant was not funded) Grant ID Principle Investigator Title Role IRTS Dr. Reza Raeisi Digital Logic System Laboratory for rapid prototyping As the principle investigator in a mini-grant proposal project with a student helper, We proposed the IRTS to build and design a digital logic design for rapid prototyping of logic design to improve our existing digital logic lab. . Dr. Reza Raeisi Faculty International Travel Grant December 15, 2004 Dr. Gerald Cockrell Information Technology Innovations Mini-Grant November 8, 2004 Mr. Joe Ashby 4/1 to 4/20 Debug of installed wiring and control logic, DaimlerChrysler Kokomo Transmission Plant, 5/1 to 8/15 Development of a machine tool spindle specification, Rockwell Automation, Indianapolis 10/30 to 11/15 Dr. Gerald Cockrell Type Office Organization Start Date End Date org Director of Training Programs ISA The Instrumentation, Systems, and Automation Society 01-01-2004 01-10-2005 Type Office Organization Start Date End Date com Revitalization Task Force ISA The Instrumentation, Systems, and Automation Society 01-01-2004 01-01-2005 com TATE World Business review with Alexander Haig 01-01-2004 01-01-2005 com International Student Competition ISA The Instrumentation, Systems, and Automation Society 01-01-2004 01-01-2005 com Books Advisory Committee ISA The Instrumentation, Systems, and Automation Society 01-01-2004 01-01-2005 com New Technology Task force ISA The Instrumentation, Systems, and Automation Society 01-01-2004 01-01-2005 Conference Name Organization Responsibilities Location Show Date Summary Leadership Development ISA The Instrumentation, Systems, and Automation Society Training for ISA leaders Houston, TX 10-22-2004 Present theories and concepts for ISA leaders Type Title Sponsor Location Date workshop Effective Team Building ISA The Instrumentation, Systems, and Automation Society Web Seminar 04-23-2004 workshop Effective Team Building ISA The Instrumentation, Systems, and Automation Society Web Seminar 06-18-2004 workshop Motivating Team Members ISA The Instrumentation, Systems, and Automation Society Research Triangle Park, NC 10-18-2004 Type Purpose Organization Location Date CCST Certification Test Writing Committee To develop, approve, and validate questions for the CCST (Certified Control System Technician) exam. ISA The Instrumentation, Systems, and Automation Society Research Triangle Park, NC 10-23-2004 CAP (Certified Automation Professional) Development Team Develop tests for the CAP exam. ISA The Instrum

### 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?**

During 2004, the ECT Department reviewed/revised all documents related to advising, policies and procedures, and courses. A primary goal during 2004 for the ECT Department was to review/revise the Computer Hardware Technology B.S. program. This process is still occurring, and has reached the stage of defining the curriculum along with description of each course to be included. The ECT Department is considering offering its degree completion program in Electronics Technology on a nation-wide basis. At present, we are considering the ramifications of such an offering. If we adopt a nation-wide offering for this program, the department believes that this will be one of the few programs

### 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.**

Collaborative Efforts The ECT Department and MCT Department have collaborated to maximize budget efforts for areas related to CIM. This effort includes space allocation, faculty, and faculty

collaboration on grants related to obtaining equipment resources through discounted purchasing, and grants with industrial partners. Our department continues to work with vendors to ensure that any purchases we make receive the best pricing possible.

### Outreach

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

The ECT Department is actively engaged in distance education. We participate in degree link and current offer a degree completion program in electronics technology at the undergraduate level. We also offer a master's degree at a distance program.

### 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.**

Advisement survey data has been used to change our departmental advisement/registration process. Advisement survey data has been used to change ECT 130 and ECT 430. New material has been introduced into these courses to inform students about careers, and internships/cooperative experiences. The accreditation process has involved students in reviewing our major programs. Through this involvement information has been used to help the department in its normal revision of course information and departmental procedures related to major program course development. The ECT Department is constantly involved in experiential learning activities such as cooperative experiences, and activities that include industrial tours. Presently our department is engaged in review/revision of its computer hardware technology curriculum. The Computer Hardware Technology Subcommittee has developed and distributed an instrument to senior-level computer technology majors that asks for input on possible curricular revisions. During our recent re-accreditation, the department received input from alumni about our programs which were distributed to faculty, discussed in departmental meetings, and our being used as input for our continued curricular review process.

### **Strategic Initiatives**

#### Development Activities

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

Steps have been taken to encourage faculty to become more involved in consulting, professional service, involved in graduate-student projects, writing grants, etc. The department faculty have actively participated in these areas and have expressed their interest in doing more as their workload permits. Support for development depends on access to possible funding, grant opportunity information, and monies. The faculty are engaged in many activities, however, they are willing to continue their efforts and appreciate any assistance. Possible alternative teaching schedules, workloads, graduate student and faculty projects, etc have been proposed as ways to improve opportunities to pursue development.

### **Future Goals**

#### Future Goals

**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?**

The ECT Department is seeking to revise its Computer Hardware Technology program in order to bring this major inline with modern computer technology. The ECT Department will next move to revise its Electronics Technology program. Again this will be done to bring this major up to date. The ECT Department will work to actively seek input from its Industrial Advisory Board on curricular issues, experiential opportunities, and possible funding opportunities.