2010-2011 Engineering & Technology

Section	Document Name
Fiscal Health	• EGTC.pdf
Fiscal Health	• MUS.pdf

Mission

Vision - The Purdue School of Engineering and Technology, IUPUI will be regarded as one of America's outstanding urban schools of engineering and technology, recognized regionally, nationally, and internationally for its excellence in teaching, research, creative activities, and civic engagement.

Mission - The Purdue School of Engineering and Technology, IUPUI serves the greater Indianapolis metropolitan area, the State of Indiana, and the nation by providing a high-quality learning environment informed through the discovery and dissemination of knowledge via the scholarship of teaching and learning, research, creative activities, and civic engagement.

Values - The core values that define, inform, and guide the decisions within our School are as follows:

- *Excellence:* Academic excellence is our top priority. We pursue excellence in learning, teaching, research, and civic engagement as the highest indicators of successful achievement.
- *Competition:* Competition enhances innovation. We strive to compete at the highest levels in the pursuit of extramural support for our students, as well as for our research and creative activities.
- *Collaboration:* We promote teamwork and partnerships for solving problems and disseminating and transferring knowledge, thus multiplying our accomplishments.
- *Diversity:* We encourage intergenerational, multi-ethnic, and international diversity of our research, curricula, and pedagogy and of our faculty, staff, and student composition.
- *Leadership:* We encourage and reward effective leadership at every level in the School.
- *Location:* We are fortunate to be located in the cosmopolitan city of Indianapolis and we strive to capitalize on the urban setting to address the challenges of a global society.
- *Professionalism:* We foster and reward high standards of collegiality and integrity.
- *Responsiveness:* We are committed to community and professional service to meet the needs of our stakeholders.
- *Improvement:* We strive to continuously improve the implementation of our mission through efficient assessment and evaluation processes.
- *Identity:* We take pride in the Purdue University and Indiana University affiliations, while striving to advance the IUPUI campus identity, image, and reputation.

Goals and Objectives

A1. Attract more students, including better prepared students and a more diverse population to the school

A1.a. Continue to improve process for recruiting students.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Signed an agreement with Atlanta University Consortium (AUC) to provide opportunities for students from three

Historically Black Colleges and Universities (Clark Atlanta University, Morehouse College, and Spelman College) to pursue baccalaureate degrees from select disciplines in the School

- Continued to work closely with Project Lead the Way.
- Continued merit-based awards sponsored by local business and industry to attract students.
- Continued to augment admission-based scholarships offered by the campus. For example, admitted students with a 1450 SAT (Math and Critical Reading) would receive an additional $2,000 from the School.
- Continued to match the Dean of Faculties, Outstanding Freshman, and Dean's recognition scholarships at 25% of the campus award.
- Continued Preparing Outstanding Women for Engineer Roles (POWER) camp. Support was provided by Midwest ISO and Rolls-Royce.
- Continued our successful summer Minority Engineering Advancement Program as well as the Transportation Camp and Pathways to Engineering program.
- Continued personal outreach and contact to newly admitted or transferred students by the Assistant Dean for Student Services to facilitate academic advising, registration, and any needed follow up. Departments were asked to also establish contact with new students.
- Continued to use E&T-based Student Ambassadors to follow up with admitted students to facilitate student-to-student conversations and connections.
- Continued postcard and electronic mailings to admitted students.

Evidence of Progress for 2010-2011:

- Increased on-campus activities for Project Lead the Way.
- Maintained scholarship support.
- Secured additional scholarships for programs such as motorsports engineering.
- Several prospective AUC students visited IUPUI.
- Feedback from newly admitted students suggests that the Student Ambassadors program is being well-received.

Activities planned for 2011-2012:

- Continue to pursue funding opportunities for student scholarships.
- Market scholarship opportunities to prospective donors.
- Market the scholarship opportunities to prospective students.

- Increase the School match for scholarships.
- Develop a relationship with TechPoint Foundation focused on K-12 STEM initiatives, such as First Robotics.

A1.b. Increase marketing efforts for academic programs.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Increased use of social media (e.g., Twitter, Facebook, Linkedin) for recruitment, networking, student engagement, and promotion of academic programs.
- Continued partnership with Westcomm to promote E&T initiatives and accomplishments in various media.
- Continued targeted recruitment to Puerto Rico and Southeast Asia, yielding additional student interest and enrollment in E&T programs.
- Continued to promote Motorsports and Energy Engineering to leverage location and unique capabilities.

Evidence of Progress for 2010-2011:

- The Motorsports Engineering program was listed in the American Society for Engineering Education's *Prism* magazine on their "Dynamic Dozen" list of "Hot Courses"
- All of the School's graduate programs in Engineering were nationally ranked by *U.S. News and World Report* with Biomedical Engineering ranked #47, Electrical Engineering ranked #84, Computer Engineering ranked #85, and Mechanical Engineering ranked #101.All of these programs were in the 'unranked' category only a few years ago.
- Freshmen FTE increased 7.5% from Fall 2010.
- Masters FTE increased by 12.2% from Fall 2010.
- Doctoral FTE increased 6.6% from Fall 2010.
- Motorsports engineering enrollment up 20% from Fall 10.

Activities planned for 2011-2012:

- Improve website and make information up-to-date and relevant.
- Expand the marketing of unique E&T programs, in particular Motorsports and Energy Engineering.
- Continue targeted international recruitment trips that complement enrollment shaping initiatives.

A1.c. Increase the number of classes, certificates, and degree programs offered via nontraditional delivery methods.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued to develop and teach more online courses as well as one-week intensive courses during the Winter break, Spring Break, and throughout the summer.
- Increased the number of late-start classes to accommodate students who need to maintain full-time enrollment status but must make schedule adjustments after the official add-drop period ends.
- Continued to expand the scope of Biomedical Engineering Technology-BS program online courses.
- Continued to strengthen the fully-online Facilities Management-MS degree program.
- Engaged Dallara concerning an M.S. in Motorsports Engineering that includes a Dallara internship.

Evidence of Progress for 2010-2011:

- Increase in credit hours for E&T can be partially attributed to late-start courses.
- Student demand for online courses continues to increase, as evidenced by the number of sections that fill quickly and the waitlist for online courses.
- Increase in credit hours for E&T may be partially attributed to some of these nontraditional delivery method initiatives.

Activities planned for 2011-2012:

- Selectively expand late-start and concentrated course offerings to other courses, programs, and departments, as appropriate.
- Music Technology-BS and Music Technology-MS programs will add more online courses.
- Selectively expand nontraditional delivery offerings to other programs and departments, as appropriate.

A2. Support and enhance effective teaching

A2.a. Increase support for faculty and staff in course preparation.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued a uniform school-wide orientation, training, and mentoring program for junior faculty and part-time faculty with an emphasis on teaching excellence.
- Continued staff assistance on Oncourse that has been available through UITS.
- Provided graders, teaching assistants, and other support to selective faculty, programs, and departments.
- Ensured that each newly hired full-time faculty member was provided a mentor.

Evidence of Progress for 2010-2011:

- All newly hired faculty offered Oncourse support.

Activities planned for 2011-2012:

- Continue needs assessment with department chairs, course coordinators, and associate faculty to determine on going needs and opportunities for professional development.
- Identify additional teaching assistant needs in programs and prioritize resource allocations accordingly.

A2.b. Increase participation from each department in programs such those conducted by the Center for Teaching and Learning that emphasize teaching excellence.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued to promote Center for Teaching and Learning (CTL) offerings to faculty and staff within the School and encouraged their participation.
- Arranged for newly hired and probationary faculty to have consultations with CTL representatives.
- Provided input to CTL by ensuring E&T representation on CTL Advisory Board.

Evidence of Progress for 2010-2011:

- The number of faculty preparing proposals for teaching grants, the number of faculty using CTL services, and the number of faculty involved in the Scholarship of Teaching and Learning have been on the increase.
- Competitive grants to support student learning were received from the National Science Foundation including: (1) "Implementation, Dissemination, Barrier Identification and Faculty Training For Project-Enhanced Learning in

Gateway Engineering Courses" and (2) "Central Indiana STEM Talent Expansion Program" grant in collaboration with the School of Science

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Activities planned for 2011-2012:

- Continue to leverage CTL resources, in particular to support proposal development for external grants in teaching-related areas.

A2.c. Increase the recognition of effective teaching.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Maintained E&T-based awards for teaching excellence.
- Continued the recognition of effective teaching through university-sponsored Trustees' Teaching Award program.
- Encouraged faculty to pursue campus-based and external awards for teaching excellence.

Evidence of Progress for 2010-2011:

- Provided 5 faculty members with Trustees' Teaching Awards
- Provided 3 faculty members with School-based teaching-related awards.

Activities planned for 2011-2012:

- Continue teaching recognition awards programs.
- Selectively reward faculty for innovations and impact in teaching that contribute to the enhancement of the school's national reputation in this area.

A2.d. Continued a program of faculty conversations on effective teaching in the school and in departments.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued a series of Lunch-n-Learn workshops targeted to faculty and staff for the purposes of enhancing professional development in teaching.

Evidence of Progress for 2010-2011:

- Attendance at and feedback from Lunch-n-Learn series is promising.

Activities planned for 2011-2012:

- Ongoing evaluation, refinement, and institutionalizing Lunch-n-Learn series will continue.

A3. Enhance undergraduate student learning and success

A3.a. Maintain accreditation by ABET, CIDA, NASM. Pursue inaugural accreditation for programs when eligible.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued School-wide Assessment Committee as a sub-committee of the E&T Faculty Senate.
- Prepared interim report and submitted it to the CAC of ABET to respond to weaknesses cited in CIT and CGT programs from on-site visits.
- Responded to National Association of Schools of Music (NASM) review of MAT programs.
- Hosted on-site review by EAC of ABET of the BME, CmpE, EE, and ME programs and submitted a due process response to cited shortcomings.

Evidence of Progress for 2010-2011:

- The Department of Music and Arts Technology and all of its programs received inaugural accreditation from the National Association of Schools of Music.
- B.S. in BME received inaugural accreditation from the EAC of ABET.
- B.S. in CmpE, EE, and ME received continued accreditation from the EAC of ABET. ME received one weakness requiring an interim report.
- All weaknesses were resolved and only a concern remains in the CAC of ABET draft statement for the CIT and CGT programs.

Activities planned for 2011-2012:

- Prepare due process response for CAC of ABET for the reamining concern in the CIT and CGT programs.
- Prepare interim report for EAC of ABET for the remaining weakness in ME.
- Begin preparation for TAC of ABET review of Technology programs.
- Continue School-wide Assessment Committee as a sub-committee of the E&T Faculty Senate.

A3.b. Expand career planning and placement services for students.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Expanded the breadth of professional development opportunities available for students through the Office of Career Services and Professional Development.
- Conducted E&T-specific workshops on the following topics: Career Planning, Career and Internship Resources, Employer Resume Reviews, Mock Interviews, Employer Information Sessions, etc.
- Created and conducted an alumni survey to capture placement information.

Evidence of Progress for 2010-2011:

- Numerous engineering and technology students participated in on-campus interviews that took place in the office.
- Numerous students attended the workshops conducted by the office.

Activities planned for 2011-2012:

- Further advance the professional development opportunities to include: additional discipline-specific workshops, online workshops, alumni mentoring, and career planning courses.
- Increase the number of businesses and alumni that come to campus to talk to students about career opportunities.

A3.c. Improve student laboratory and classroom experiences.

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Computer Network Center collaborated with University Information Technology Services to upgrade student computers (88 systems) in 5 School-owned labs and to install 4 collaborative computer stations with large monitors in the ET lower level for student use.

- Ensured that equipment in the laboratories is upgraded on a regular basis to the extent the budget permits.

Evidence of Progress for 2010-2011:

- Accreditation visitors have positive feedback about our laboratories.

- Evidence from focus groups, National Survey of Student Engagement, and Continuing Student Satisfaction Survey indicates that students appreciate up-to-date environments.

Activities planned for 2011-2012:

- Encourage more faculty members to prepare and submit course, curriculum, and laboratory improvement proposals to NSF, industry, and other potential funding sources.

- Use the E&T "Program Fee" charged to our majors to continue to upgrade laboratory equipment.

A3.d. Improve student retention and graduation rates.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Made improvements in student advising via the New Student Academic Advising Center, provided tutors, and recruited academically better-prepared students.

- Nominated several students for leadership awards and recognition.

Evidence of Progress for 2010-2011:

- The number of degrees conferred by E&T increased by approximately 9.3% as compared to last year.

- The retention rates were relatively flat as compared to last year after 3 years of significant improvment.

Activities planned for 2011-2012:

- Office of Student Services will continue promoting activities on campus that include prospective employers.

- Office of Student Services will continue promoting student council and other student organizations to students.

- Office of Student Services will continue developing plan to offer scholarships to part-time, high achieving, and current students, and it will work with IUPUI Housing Office to provide theme housing unit (Purdue House) for engineering and technology students.

A3.e. Develop degree-specific honors programs.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Interdisciplinary Honors Minor in Leadership, a partnership between OLS and the Honor's College that also encompasses several other IUPUI units, is ongoing.

Evidence of Progress for 2010-2011:

- No data is available yet.

Activities planned for 2011-2012:

- Continue to work with the Honors College to identify additional courses, programs, and opportunities for high-ability students.
- Each program has been challenged to consider developing degree-specific honors programs that culminate in an undergraduate thesis.

A3.f. Increase student participation in professional societies and clubs.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued to involve the Dean's Industrial Advisory Committee to work with student organizations to develop plans, funding opportunities, and other initiatives.
- Continued to require all students receiving an E&T-based scholarship to attend at least one student organization meeting.
- Continued to encourage student organizations to apply for campus-level funding to support their specific events.
- Continued to leverage the tutoring provided by some of these organizations to market to interested students.

Evidence of Progress for 2010-2011:

- Increased student interest in professional societies and clubs.

Activities planned for 2011-2012:

- Engineering Technology Student Council (ETSC) will support a one-day leadership development program for organization leaders
- ETSC will continue to require all student organizations to be represented in meetings to receive funding and they each report out on upcoming activities.
- ETSC will continue to provide up to $1500 for student organizations to attend professional conferences.
- ETSC is planning for a retreat in 2011-2012.

A4. Provide effective support for graduate students.

A4.a. Increase financial support for graduate students
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Created research-outcome-based process for allocation of graduate student funding among departments.
- Continued to cover non-resident portion of tuition for those graduate assistants supported from external grants or contracts.
- Reallocated graduate student budget line from School to departments.
- Worked with Purdue, WL to eliminate non-resident tuition for IUPUI Ph.D. students enrolled in thesis hours at Purdue, WL.

Evidence of Progress for 2010-2011:

- Graduate enrollement in Fall 2011 is up for BME by 37%, ECE by 26%, and ME by 46% as compared to Fall 2010.

Activities planned for 2011-2012:

- Pursue reallocations to increase base budget funding to support graduate students.

- Encourage faculty to include graduate student support in grant and contract proposal development.

A4.b. Increase the support for grantsmanship to improve financial support for graduate students and post-doctoral fellows.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Implemented ICR return to investigators (10%), departement (10%), and centers (10%), if applicable
- Continued to provide part-time technical communication faculty to support grant writing.
- Provided cost share for several proposals.

Evidence of Progress for 2010-2011:

- Research awards in FY 2011-2012 outpace FY 2010-2011 even in difficult climate.

Activities planned for 2011-2012:

- Continue to provide cost share for proposals as needed.

A4.c. Increase marketing efforts locally and internationally to attract highly qualified students.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Hosted a school-based Graduate Open House.
- Participated in events held by the Graduate Programs Office.
- Traveled to nearby graduate recruitment fairs at Purdue University, West Lafayette and Rose-Hulman.

Evidence of Progress for 2010-2011:

- Graduate student enrollment significantly increased in engineering programs from 2010.

Activities planned for 2011-2012:

- Continue promoting graduate programs to Central Indiana business and industry.
- Identify regional universities that have undergraduate programs in E&T and participate in their graduate fairs.
- Participate in IUPUI campus-level graduate fairs, open houses, etc.

A4.d. Grow the Ph.D. programs and improve the quality of graduate programs.
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued to negotiate arrangements with Purdue University, West Lafayette to attempt to reduce barriers to the Ph.D. programs in engineering.

Evidence of Progress for 2010-2011:

- Purdue has waived non-resident tuition for IUPUI Ph.D. students (who hold a graduate assistantship) taking thesis hours at West Lafayette.

Activities planned for 2011-2012:

- There continues to be additional procedural challenges in administering the Ph.D. programs and the school graduate committees will be working with their West Lafayette counterparts on strategies to enhance the effectiveness of program delivery and quality.

A4.e. Continue to develop new academic initiatives appropriate to Central Indiana
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Pursue a Motorsports Engineering M.S. program in collaboration with Dallara.

Evidence of Progress for 2010-2011:

- Held several meetings with Dallara concerning the nature of the curriculum for an MS in motorsports.

- A draft proposal for a concentration in motorsports under the existing M.S. in Technology has been prepared.

Activities planned for 2011-2012:

- Continue to encourage high-ability students to proactively consider the 5-year B.S./M.S. programs in select engineering fields.
- Pursue the development a 5-year B.S./M.S. program for the Technology programs.
- Pursue the M.S. offering in motorsports.

B1. Conduct world-class research as evidenced through scholarly and creative activities.

B1.a. Increase funded research with grants or contracts from government agencies, industry, foundations, and/or other organizations.

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Promoted and invested in major research foci in health care, energy, and automotive/transportation.
- Encouraged multi-disciplinary teams and multi-million dollar research proposal submissions through research centers such as Transportation Active Safety Institute (TASI) and the Lugar Center for Renewable Energy.
- Continued to pursue externally funded opportunities through proposal submissions to industry and federal agencies such as NIH, NSF, DoD, and DoE.
- Continued strong relationships with key industry research partners, including: Delphi, Raytheon, Rolls-Royce, Crane, Roche, Cummins, and others.
- Maintained half-time Director of Industry Relations position to liaise with industry and coordinate Dean's Industrial Advisory Board and departmentally based advisory boards.
- Provided School cost share when needed for federal proposals.

Evidence of Progress for 2010-2011:

- Conducted 20 health science research projects and received $3.82M in research awards from the National Institutes of Health.
- Received major awards from the U.S. Army and the Department of Energy, in health care and energy, respectively.
- Research awards and expenditures remained strong despite decreasing availability of federal support due to the

earmark moratorium and lack of stimulus funds.

- The Transportation Active Safety Institute (TASI) was selected as an IUPUI Signature Center and TASI received a $2.5M award from Toyota Corporation.

- The School is a founding partner of the Spectrum Warfare Applied Research Center (SWARC) with Purdue, W. Lafayette, Georgia Tech Research Institute, Pennsylvania State University, Ohio State University, and Illinois Institute of Technology. This consortium of universities is focused on moving basic research to market and applying discoveries to known challenges in the electronic warfare area while building strong research collaborations among all member institutions.

- The School received Carrier Corporation grants for labs and graduate research fellowship, developed working partnership and collaboration with Cummins, and established a relationship with Altairnano for battery research.

- Several license agreements were successfully signed based on inventions generated by faculty from the School.

Activities planned for 2011-2012:

- Continue to assertively pursue extramural support of research and creative activities. Look for opportunities for forming multi-disciplinary teams and partnerships to pursue larger projects.

B1.b. Attract and retain world-class faculty and staff.
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Offered highly competitive start-up packages and salaries for tenure-track hires.

- Developed a School research incentive plan.

- Made strategic merit raises.

- Developed and implemented an ICR return policy, including returning 10% to investigators.

- Returned salary savings from external grants/contracts to investigators' discretionary accounts.

- Developed a procedure to establish shared credit among co-investigators before a proposal is submitted to a funding agency.

- Hired an additional staff member devoted to post-award budget support.

Evidence of Progress for 2010-2011:

- Hired 3 tenure-track faculty members in mechanical engineering with excellent research credentials, including a

track record of prior external support for their research agenda. One hire is female and another is Hispanic. Additional underrepresented faculty hires remains a top priority.

- Dr. Peter Schubert accepted the Schools offer to serve as Director of the Lugar Center for Renewable Energy and Professor of Electrical and Computer Engineering.
- Attracted Dr. Hiroki Yokota back to the School after his resignation. He served for one semester as a tenured full professor at RPI. He subsequently was awarded a $2M+ research grant from the U.S. Army upon his return to IUPUI.
- Appointed Dr. Razi Nalim associate dean of research and graduate programs.
- Assembled a very competitive counter offer to retain one of the School's most prolific researchers.
- Hired five outstanding non-tenure-track faculty members, including a highly accomplished motorsports engineer.

Activities planned for 2011-2012:

- Pursue additional faculty searches during 2011-2012.
- Implement research incentive plan.
- Continue to monitor peer and aspirational peer data regarding faculty salaries and research productivity metrics.

B2. Provide resources and support for faculty and staff development to increase scholarly activity and external funding.

B2.a. Provide support for research-related professional development activities.
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Encouraged department chairs to provide funds from departmental budgets to support faculty pursuing professional development.

Evidence of Progress for 2010-2011:

- Research-active faculty members often have funds for dissemination and travel to research-related meetings as part of their grant or contract award.
- Several faculty selected to serve in editorial and leadership roles for prestigious journals and organizations in their discipline including membership on (1) the Editorial Board of the Journal of Nanomedicine and Biotherapeutic Discovery; (2) Editorial Board of Frontiers in Neuroengineering; and (3) the Encyclopedia of Systems Biology.

Activities planned for 2011-2012:

- Review our approach to supporting travel to research-oriented professional development and make enhancements, as necessary.

B2.b. Provide seed funding for research initiation and proposal generation.

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Provided support for research initiation as part of the start-up funds for newly hired faculty.

Evidence of Progress for 2010-2011:

- Most of the faculty members developed full proposals using the seed funds.

Activities planned for 2011-2012:

- Review our approach for providing seed funding for research initiation and proposal generation and make enhancements, as necessary.

B2.c. Adjust teaching and administrative loads based on the expectations for teaching, research, and service to improve research productivity.

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Proposed new faculty activity workload survey (FAWs) as a tool to collect quantitative data about key faculty activities in teaching, research, and service.
- Provided newly hired tenure-track faculty release time from teaching to launch their research activities.
- Encouraged mid-career faculty to apply for sabbatical or release time for research and approvals are considered on a case-by-case basis.

Evidence of Progress for 2010-2011:

- Faculty are providing feedback on the categories captured in the FAWs.

Activities planned for 2011-2012:

- Implement the FAWs to capture data about key faculty activities more systematically.

B3. Enhance infrastructure for scholarly activity.

B3.a. Increase and/or reallocate physical space to improve research environment
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Participated in space analysis tool development with external consultant and other Schools at IUPUI.
- Identified research needs for Phase I of SELB project and negotiated with School of Science and other campus stakeholders on such needs.

Evidence of Progress for 2010-2011:

- Completed SELB plan.

Activities planned for 2011-2012:

- Plan for possible space renovations in ET building in 2012-2013 and beyond
- Inventory and identify research physical space and environment needs and make these a priority in the Capital Campaign.

B3.b. Continue to enhance research-related resource sharing among departments, schools, and campuses.
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued sharing laboratory space with the School of Medicine and others.
- Continued to have the three engineering departments share research laboratory space and equipment, with some technology departments also participating in this initiative.

Evidence of Progress for 2010-2011:

- Departments have continued to consolidate and share teaching and research lab spaces, as appropriate.

Activities planned for 2011-2012:

- Continue to work with the School of Science to efficiently utilize research space in phase I of SELB.

B3.c. Increase intellectual property generation and technology transfer through IURTC and other research incubators.
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued to promote collaboration with IURTC for invention disclosure and patent applications.
- Encouraged faculty members to transfer the technology from university to commercial arena.

Evidence of Progress for 2010-2011:

- School ranks second at IUPUI (behind the School of Medicine) in terms of patents and innovation disclosures.

Activities planned for 2011-2012:

- Continue to encourage collaboration with IURTC.

B3.d. Develop and/or maintain local and national industry relationships and establish long term partnerships
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Maintained a research partnership with industry through the Dean´s Industrial Advisory Council (DIAC).
- Ensured that research activities are a discussion point on the quarterly DIAC agenda.
- Involved the DIAC research subcommittee in working closely with the Associate Dean for Research and Graduate Programs in the school.

Evidence of Progress for 2010-2011:

- There are number of research contracts with Toyota, Delphi, Rolls Royce, Cummins, Raytheon, and others.

Activities planned for 2011-2012:

- The planning for collaboration with DIAC will continue.
- Maintain the half-time Director of Industry Relations position to increase the interaction with our industry partners.

B3.e. Provide resources to increase participation in Undergraduate Research Programs
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Encouraged faculty and undergraduate students to pursue research opportunities and projects through the Multidisciplinary Undergraduate Research Institute (MURI)
- Inventoried the number of research opportunities at the course and program levels with E&T in support of IUPUI's RISE initiative.

Evidence of Progress for 2010-2011:

- Several faculty-led student MURI teams from E&T were funded.
- All E&T programs have an identified and documented research experience for undergraduate students, appropriate to the discipline.

Activities planned for 2011-2012:

- We will continue to encourage participation in MURI and similar programs.
- We will also make undergraduate research a priority in the Capital Campaign through a focus on RISE Scholarships.

C1. Increase engagement activities, partnerships, and services.

C1.a. Continue to increase quality and effectiveness relative to advisory boards for each program.
Campus Planning Theme: Civic Engagement
Secondary Goals:

Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Maintained, expanded, and/or revitalized department- and program-level industry advisory boards.
- Held annual Joint Board of Advisors event and Dean's Industrial Advisory Council meetings to engage industry partners in the life of the School.

Evidence of Progress for 2010-2011:

- Industry partnerships and involvement of industry advisory boards is consistently noted as a clear strength of the School in accreditation visits and reports.

Activities planned for 2011-2012:

- Better coordination of the meetings of these boards, including how to leverage joint activities for widespread impact.
- More effectively engage boards in the IUPUI Impact Campaign.

C1.b. Increase interaction with local high schools (e.g. student outreach; teacher training).
Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Hosted a series of "Friday Labs" at IUPUI to expose high school teachers and students to experiments, computer hardware and software, and E&T-oriented career choices.
- Held 11th Anniversary of "Tech Camp," a week-long professional development and outreach activity of CIT aimed at equipping high school teachers with IT competence and skills.
- Continued "Pathways to Engineering" elementary and middle school program in partnership with IPS, Viola Water Company, and Rolls Royce.
- Continued "Project Lead The Way" program, which is the high-school component that builds on "Pathways to Engineering."

Evidence of Progress for 2010-2011:

- "Friday Labs" have been very popular among the high school students and the number of high schools involved in "Project Lead The Way" has increased.
- "Pathways to Engineering" program has progressed well from its inception.
- Tech Camp celebrated 11 years of offering continuing education for high school technology teachers, an annual event that is gaining increasing national recognition and drawing internationally renowned authors.

Activities planned for 2011-2012:

- Continue to support, evaluate, and expand each of these outreach efforts, as appropriate.
- Seek support for targeted outreach programs during the Capital Campaign.

C1.c. Develop appropriate mechanisms for external requests related to civic engagement to be aligned with School resources and assets.

Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2010-2011:

- Continued collaboration with the IUPUI Solution Center to help broker specific requests.

Evidence of Progress for 2010-2011:

- Students in several programs participated in service learning and civic engagement outreach projects through Engineers Without Borders, an organization dedicated to providing technical expertise to developing countries.

Activities planned for 2011-2012:

- More interaction is planned with the IUPUI Solution Center, the Center for Service and Learning, and our industry and community partners.
- Greater capacity for service learning and civic engagement opportunities will be pursued based on strong interest from students.

C1.d. Expand industry partnerships relative to student employment opportunities such as scope and breadth of career fairs, selection as preferred recruitment partner.

Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Time Frame: Ongoing

Actions taken for 2010-2011:

- Strived to increase the number of companies participating in the E&T Career Connection event.

Evidence of Progress for 2010-2011:

- The Career Fair set a record in terms of industry participants and student attendance.
- The Office of Career Services and Professional Development posted over numerous engineering and technology-specific career opportunities in the past year.
- The Office of Career Services and Professional Development hosted over several companies for on-campus interviews who were recruiting for internship, co-op, and career opportunities.

Activities planned for 2011-2012:

- Actively engage Indiana economic development initiatives facilitated by BioCrossroads, Conexus, TechPoint, and Energy Systems Network.
- The Office of Career Services and Professional Development will continue to identify additional means of marketing services to employers.
- The Office of Career Services and Professional Development will incorporate a required site visit as an assignment of the Internship and Co-op Courses to increase employer awareness of the Office and provide a chance for staff to inquire about additional opportunities.
- The Office of Career Services and Professional Development will continue marketing and expanding the ET Career Connection to include companies from every discipline within E&T.

C1.e. Increase involvement in area economic development activities and research parks.

Campus Planning Theme:
Secondary Goals:
Sub Unit:
Time Frame:

Actions taken for 2010-2011:

- Continued to participate in the Purdue University Technical Assistance Program (TAP) by leveraging the talents of engineering and technology faculty members in support of this program.
- Continued to provide technical consultations to small businesses and industry organizations and involved

undergraduate and graduate students in these projects.

Evidence of Progress for 2010-2011:

- Positive feedback was received from several small businesses about the quality and impact of technical consultations provided by E&T faculty and students.

Activities planned for 2011-2012:

- Explore additional opportunities for leveraging TAP affiliation.
- Explore better ways of identifying new markets and providing unmet needs.

C1.f. Enhance efforts for specialized markets.

Campus Planning Theme:
Secondary Goals:
Sub Unit:
Time Frame:

Actions taken for 2010-2011:

- Continued OLS program for adults with some college but no degree under the auspices of A+PLUS (Adult Programs in Leadership for Undergraduate Students).
- Continued to market the OLS via A+PLUS to International Brotherhood of Electrical Workers.
- Partnered with IUPUI's Office of Veterans and Military Personnel to ensure proper distribution of military credit.

Evidence of Progress for 2010-2011:

- Experience with A+PLUS continues to indicate a potentially strong market for this initiative.
- E&T continues to enroll the largest number of veteran and military students than any other unit at IUPUI.

Activities planned for 2011-2012:

- Continue to pursue external funding to enhance success in specialized markets.

C1.g. Enhance service-learning opportunities for students.

Campus Planning Theme:
Secondary Goals:
Sub Unit:
Time Frame:

Actions taken for 2010-2011:

- Continued Global Design Studio, offered through Architectural Technology and Computer Graphics Technology programs, to provide service learning opportunities in Thailand.

Evidence of Progress for 2010-2011:

- Although improving, there is presently insufficient capacity in E&T courses and programs for service learning experiences in support of the 'S' in RISE.

Activities planned for 2011-2012:

- Continue to encourage participation in service learning and similar opportunities.
- Continue to encourage faculty to develop service learning courses and experiences, appropriate to their discipline and in alignment with the RISE initiative.

D.1 Best Practices

D1.a Enhance fiscal stewardship, effectiveness, and transparency.

Campus Planning Theme: Best Practices
Secondary Goals:
Sub Unit:
Time Frame:

Actions taken for 2010-2011:

- Reviewed the School's base budget, reoccurring obligations funded by cash, and departmental and School expenditures from prior fiscal year.
- Increased the School's base budget to be more consistent with revenue streams and reoccurring obligations currently funded via cash.
- Increased departmental base budgets thereby decreasing discretionary funds at the School level and ad hoc requests from departments and/or programs.

Evidence of Progress for 2010-2011:

- Department chairs and program directors indicate a clearer understanding of their base budgets, reoccurring costs, financial needs, and fiscal responsibilities. Also, departments have more ownership of strategic plans.

Activities planned for 2011-2012:

- Continue to review base budgets and expenditures and reallocate to support key priorities.

Fiscal Health

Reallocation Plan

Other Question(s)

1. What changes are you seeing in the characteristics of incoming and returning students, and how are you preparing these students to meet the changing needs of the future workforce?

Given E&T's broad portfolio of academic programs, it is difficult to make generalizations; however, there are some School-wide trends.

In the past, a significant number of our students were non-traditional, that is, working adults employed full-time during the day and attending classes part-time at night. Anecdotally, these non-traditional students were often more adept at synthesizing concepts across the curriculum, with a stronger aptitude to apply knowledge and abilities from previous courses into a major design or capstone experience. Now, most of our students are more traditional, that is, younger, full-time students and part-time employees with no prior industrial experience related to their program of study. Some of the younger students have more challenges in applying knowledge cumulatively. Some faculty members refer to a student attitude of: *"once n' done,"* and it inhibits some students from seeing the big picture and from applying or synthesizing concepts.

As far as incoming, traditional freshmen students, while the average SAT/ACT scores for admitted students have not significantly increased, we are receiving a greater number of highly qualified admits, with multiple options for study. Our non-resident applications have increased due to the efforts of the campus admissions office, E&T recruitment initiatives, and programs such as Motorsports Engineering and Energy Engineering, which are unique programs nationally. Also, our incoming students continue to be increasingly advanced technologically, especially in the way that they communicate. Leveraging state-of-the-art modalities for communicating with our students, in and out of the classroom, will remain an opportunity and challenge.

For those programs that have had the most dramatic shift in student demographics from non-traditional, part-time students, to traditional, full-time students, more day course offerings are required. This presents a significant challenge particularly for technology programs, in which a significant number of adjunct faculty members are teaching evening classes. Newer programs, such as biomedical engineering, do not have the legacy of non-traditional students, so such a transition is not a significant issue.

Virtually all of our academic programs are attempting to integrate best practices identified in the engineering and technology educational research literature into the freshmen year courses, to build knowledge and experiences that will improve the students' ability to synthesize concepts across the curriculum, while also exciting students about their major thereby increasing retention. These practices include more team-oriented, project-based experiences early on in the curriculum. Also, providing opportunities for more internships, co-ops, and research experiences early on will improve our students' ability to synthesize concepts.

2. What are your plans for any surplus amounts in your fund balance?

Several needs require the accumulation of significant reserves prior to the anticipated expenditure. Below are several needs in which surplus funds could be used in E&T (no priority is implied in the order):

a. New equipment for teaching labs (life-cycle replacement) and maintenance contracts on some existing research equipment
b. Start-up funds for new faculty hires

b. Start-up funds for new faculty hires
c. Matching fund reserves for research proposals (e.g., many Dept. of Energy proposals require significant cost share)
d. Graduate student support (e.g., increase the pool of funds available for funding the tuition of GAs)
e. Laboratory renovations and upgrades (e.g., more vent and exhaust capacity in SL)
f. Contingency funds for leases for research and student project surge space
g. Matching funds for new construction projects (e.g., either an on-campus or off-campus Motorsports teaching laboratory)
h. Science and Engineering Laboratory Building (SELB) phase one needs (e.g., equipment for new biomedical and energy engineering labs in SELB)

3. What are your short-term and long-term plans for ensuring adequate facilities to meet your mission? To what extent are on-line and/or hybrid courses a useful strategy in addressing any anticipated space constraints?

Short term, we must improve the efficiency of coordinating the use of our existing teaching and research laboratories, as there are additional opportunities for sharing of space. Communication has improved among the faculty and staff surrounding the scheduling of shared areas, but there is ample opportunity for improvement in the faculty's consciousness of their laboratory needs and advance planning. Longer term, we must develop better algorithms and metrics to plan laboratory section enrollments to optimize offerings, as well as the allocation and retention of research space.

Other short-term plans for space include accumulating cash to enable options for off-campus leases or other possible external partnerships that include space options. Particular challenges are in areas related to automotive and energy academic programs and research. For example, both the Motorsports Engineering program and the Transportation Activity Safety Institute (TASI) require garage access for projects that involve vehicles. We have adopted some time-sharing strategies; however, recent research awards to TASI from Toyota, as well as the growing Motorsports Engineering program, have surpassed the limits of existing space. Also, teaching and research in energy engineering requires more vent hoods in a building with adequate exhaust capacity.

E&T has been very proactive in using on-line and hybrid courses to partially alleviate space constraints. For example, computer information technology (CIT) and organizational leadership and supervision (OLS) currently offer courses in on-line, simultaneous hybrid, alternating hybrid, weekend, and compressed formats. Approximately 60% of CIT and OLS offerings are in one of these alternative formats. Each of these techniques has provided space relief to the School. Other programs, such as interior design, have taken advantage of remote locations (Park 100) to partially alleviate some on-campus space challenges. Also, the engineering dual degree program with Butler University, provides some options for off-campus space utilization.
We have an opportunity to significantly increase our graduate enrollment via professional Masters and graduate certificate programs in niche areas; however, these programs must be developed with an accompanying space strategy. For example, we are currently developing on-line courses related to hybrid-electric vehicles and energy management techniques that will require little or no additional on-campus space.

Longer-term, we continue to actively pursue development strategies to nurture prospective donors with the capacity to make transformational gifts that will enable the construction of new facilities to meet our space needs.

4. What marketing strategies/materials are you planning to develop/disseminate during the coming year?

- **a. Who is the intended audience for each?**
- **b. What do you hope to accomplish with this strategy with this audience?**
- **c. How much are you planning to spend for each strategy?**
- **d. How will you tell if your expenditure was worth your investment? [Provide return on investment (ROI) data for past expenditures, if available, and plan to track ROI in the future.**

1. Redesign of the E&T website
   a. Audience: prospective students, current students, alumni, friends of the School, parents, industry partners, faculty, and staff
   b. Accomplishment: clearly and concisely identify the mission of the School, provide a better external marketing tool, increased dissemination of School news and accomplishments, provide a more efficient and accessible tool for on-line donations
   c. Estimated cost: $ 50K
   d. ROI: web metrics for use of site, request for information forms completed, increase in on-line donations, satisfaction survey of constituents

2. Undergraduate recruitment ads in high school news publications
   a. Audience: prospective students and parents
   b. Accomplishment: advertise the School's programs, recruit students, inform parents of available scholarship money
   c. Estimated cost: $1 to 5K depending upon the number of high schools involved
   d. ROI: tracking admitted students from the various schools where the ads are placed

3. Increase circulation of undergraduate recruitment brochures for new degree programs and certificates (e.g., Energy Engineering, Technical Communications, and other areas)
   a. Audience: prospective students and parents
   b. Accomplishment: advertise the School, recruit students into new programs like Energy Engineering
   c. Estimated cost: $2K to $5K
   d. ROI: no assessment in the past, start asking students about the efficacy of the brochures in their program selection process

4. New brochures for graduate programs and certificates in hybrid-electric vehicles and energy management and other programs
   a. Audience: prospective students working in industry
   b. Accomplishment: advertise the School, recruit students into new graduate programs and certificates
   c. Estimated cost: $2K
   d. ROI: no assessment in the past, start asking students about the efficacy of the brochures in their program selection process

5. School E-newsletter
   a. Audience: alumni, friends, industry partners, peer and aspirational peer institutions
   b. Accomplishment: increase information dissemination, publish research and newsworthy accomplishments, increase image and reputation of the School
   c. Cost: ExactTarget will donate services to minimize the publication and dissemination costs
   d. ROI: tracking E-newsletter website link activity

6. School magazine/year-in-review
   a. Audience: alumni, friends, industry partners, parents, selected peer and aspirational peer institutions
   b. Accomplishments: provide a year-in-review of accomplishments and School news, information pamphlet for prospective students, donors, and industry partners, increase image and reputation
   c. Cost: TBD
   d. ROI: request for information tracking, alumni in the news submissions