

DEPARTMENT OF TECHNOLOGY SYSTEMS

RESPONSE TO UNIT ACADEMIC PROGRAM REVIEW RECOMMENDATIONS

01-02-2013

Overview

The Department of Technology Systems (TSYS) is one of four departments that comprise the College of Technology and Computer Science. Its programs have a history that dates back to 1935 when the first courses were offered. The department has operated under a number of interim chairs for a long time, yet its faculty members have maintained high-levels of productivity in teaching, research, and service.

The department sincerely appreciates the earnest feedback from both the internal and external reviewers who were charged with the monumental task of reviewing its academic programs. The department is humbled and particularly grateful that the reviewers for this unit academic program review also noticed and noted some of this department's accomplishments over the years, including, but not limited to:

- Strength, commitment, and productivity of the program faculty, students, staff, and administration
- Technical currency of instructional programs and laboratory facilities
- Quality and level of preparation of our graduates
- Demand for program graduates as evidenced by high job placement rates
- Strong linkages with, and outreach to industry
- Online availability of programs and the quality of distance education infrastructure

The department houses programs in very dynamic and constantly changing fields of technology that are necessary for economic development. Being in these fields pose constant challenges due to the rapid developments in technology and the need to continually retrain, update curriculum content, and laboratory facilities. To that end, we are thankful that the reviewers identified some of the challenges that the department has been facing on a daily basis, and have included these issues in their recommendations.

Response to Recommendations for Improvement

Our responses to each of the external review recommendations for improvement are outlined below. The reviewers' comments are in **boldface** and *italicized*, while our responses are in unformatted font. Due to some overlaps in the recommendations, however, single, rather than redundant responses have been provided.

1. A clearly defined departmental vision.

a. Hire a permanent chair to guide future direction and unify faculty

A search committee for the TSYS department chair (that was formed in April 2012) concluded their work with recommendations to the Dean in November 2012. The original

target start date for the new Chair was January 1, 2013, but was delayed by internal processes. We expect this issue to be resolved by mid January 2013.

b. Doing a better job with marketing and targeted recruitment with a clear set of goals.

The College of Technology and Computer Science recently hired a marketing and outreach coordinator (Ms. Margaret Turner) to market all of the college's programs to regional high schools and community colleges. In addition, the department of Technology Systems has a faculty member (Ms. Amy Frank) with some reassigned time for outreach to community colleges and the military. These two individuals should significantly assist with our marketing and outreach efforts. In addition, the department is in the process of creating a marketing committee that will be led by Ms. Amy Frank and will have representatives from each program area within the department. This committee's task is to develop a marketing plan for the department in conjunction with the departmental strategic planning committee, and in consultation with our students, faculty, industry advisory boards, academic advisors, and other stakeholders. We expect this committee's initial recommendations by the end of April 2013, and further refinement and implementation of its recommendations by fall 2013.

c. Define the department's top "areas of excellence" on which departmental resources can be focused.

This recommendation goes hand-in-hand with 1(b) above. TSYS houses programs that directly impact regional, as well as statewide economic development. Our unit self study for the Program Prioritization Committee revealed that our programs are unique, in most cases the only ones of their kind in the entire state of North Carolina. This recommendation will be addressed in conjunction with the revision of our strategic plan via

- i. placement of this matter as a permanent agenda item for departmental meetings until a satisfactory resolution has been reached
- ii. departmental faculty retreat (or retreats)
- iii. joint advisory board meetings in Spring 2013 and Fall 2013 to obtain inputs from board members
- iv. ongoing faculty discussions with students, business and industry, administration, and other stakeholders

We expect some sort of resolutions and/or recommendations to be developed by the end of this calendar year, and action plans to be implemented starting in January 2014.

d. Better alignment of the departmental research goals to the University's

The department houses programs that directly support Science, Technology, Engineering, and Mathematics (STEM) fields. A review of departmental faculty research productivity, such as grant proposals, publications, conference presentations, etc., supports this notion. For instance, a review of external grant activity in the department revealed that TSYS submissions mostly targeted priority areas identified by sponsors, such as the National Science Foundation, the National Institute of Health, the National Security

Agency, the Department of Defense, the US Department of Labor, the NC Biotechnology Center, NC Department of Energy, as well as high technology industry such as Hewlett-Packard, EMC, IBM, and many others. Since STEM is an area that is of major interest at ECU, it should be safe to assume that our departmental research activities are in line with the university's.

What the department needs is some relief for the faculty to engage additional research activities. As enumerated several times in this document, as well as in the reviewers' report, our faculty carry heavy teaching loads in large class sizes, courses with laboratory components, online courses, or very dynamic courses that require constant content upgrade and instructor retraining. To address the reviewers' recommendation, however, our tenure and promotion committees will work in conjunction with the strategic planning committee and departmental faculty to fine tune our research goals, preferably in time for inclusion into 2013/2014 faculty annual plans.

e. Developing a five year departmental strategic plan with annual operational program specifics

This recommendation goes hand-in-hand with 1(b) and 1(c) above. The current version of the department's strategic plan was completed near the end of the spring 2012 term. This version of the strategic plan (attached) will be thoroughly reviewed through the processes outlined in 1(c) above, and will follow the same timeline outlined in the respective section.

2. Develop a research "culture"

a. Participating in the consortium-based Ph.D. program led by Indiana State University is a good opportunity for the department to conduct research since it does not have its own program and ECU benefits from the student credit hours. However, what is missing is some incentive for the faculty to serve on committees and to advise students. This can be in terms of loading, or recognition of some sort. Furthermore, Ph.D. fellowships may be an opportunity to support faculty research; however, funding will be an issue that must be studied and secured.

It is important to clarify that the PhD Consortium spans more than one academic department in most of the institutions that are participating in the consortium. At ECU, for example, faculty members from the departments of Construction Management, Engineering, and Technology Systems are currently involved with the consortium. Program wise, the departments of Construction Management and Technology Systems have areas of specializations in the PhD consortium program that are closely aligned with areas of concentrations within the two departments. To that end, this matter should be resolved at the college level, under the leadership of the Dean.

In addition, the original agreement for ECU's participation the PhD Consortium that was signed in 1998 included a 0.25 release for the ECU campus coordinator for the consortium. To date, neither the campus coordinator nor the faculty have received any

release time for their participation in the PhD Consortium. Other than the usual recognition during annual evaluations, faculty members practically take on consortium work “out of hide.” This is a common problem for the consortium member institutions, including our sister school, NC A&T State University.

The PhD Consortium recently went through a curriculum revision and has created a way for the consortium faculty members to get some benefit for their participation. A professional studies requirement allows faculty advisors to engage their PhD advisees in the faculty members research agenda, and/or to assist the faculty advisor with their instructional activities such as teaching (for those who are SACS qualified), assistance with labs, assistance with grading, etc., so the faculty member can invest their time in research. While this is a step in the right direction, there still need to be more formalized incentive/reward structure for ECU faculty members continued involvement.

To address this problem at ECU, however, the affected department chairs will work with the Dean during the spring 2013 term and help identify ways to reward faculty for their participation in the PhD Consortium.

- b. The tenure track faculty members are currently given 3/3 loads so they can pursue a research agenda. However, with large classes that require labs, teaching courses in an online environment, expectation to conduct research and industry outreach, and serve on committees, the faculty can use a bit more release time to do such activities in addition to pursuing grants and publications. The release time can be tied to specific annual goals and expectations of the faculty members to advance their career as well as the department’s mission especially if ECU is trying to position itself more as a research-oriented university.***

The issue of faculty loading is one that will haunt the department for a while. As observed by the reviewers, TSYS faculty carry a substantial teaching burden due to large sections, lab-based courses, online delivery, and the need to constantly retrain and update course content due to the rapid changes in technology. We understand that the issue of faculty loads at ECU is currently under review by a special university level committee. We look forward to the committee’s recommendations and guidance to help us tackle this complex issue.

In the meantime, the department chair, in consultation the Dean, program coordinators and affected faculty members will evaluate each situation on a case by case basis and respond appropriately. At the very least, this matter will require allocation of new resources by the university to help the department address load issues. An ad hoc committee will be setup early in 2013 to review this issue, compare solutions that have been implemented in peer institutions and/or across ECU campus, and come up with some recommendations by the end of summer 2013 for possible implementation in the 2013/2014 faculty annual plans. The recommendations should include the criteria to be met in order to qualify for release time and the deliverables to be expected from those who qualify for such release.

- c. *More presence of on campus (face to face) graduate students on campus to help with research. This however requires the allocation of resources and tuition grants allocated by the graduate college. The department should develop a plan to support their requests for more graduate student support from the university.***

This matter is very complex and bitter-sweet for the department. We are victims of our successes due to the fact that our students are very much in demand and find good paying jobs after graduation. We have experienced some difficulty retaining our limited number of on campus graduate assistants due to competitions with employers who have more lucrative job offers. Since our graduate programs are available completely online, most of our students prefer to hold regular jobs during the day and take their classes online. This matter has been part of our departmental meeting discussions over the past several months and will continue for a while. Our faculty members are looking into ways to boost our on campus graduate student recruitment by targeting undergraduate students from our on campus programs, online students, and international students. In addition, this matter will be on our departmental marketing committee's agenda for spring 2013.

It should be noted, however, that our department has been receiving graduate assistantship funds from the university to support our students. In addition, since we are one of the designated national centers for academic excellence in information assurance education (CAEIAE) by the National Security Agency (NSA) and the Department of Defense (DoD), eligible students may apply for funding via the NSA/DoD information assurance scholarship program. To that end, ample funding opportunities are available to perspective students. Our future funding needs, however, may change due to the demographics of the students enrolled. For example, recruiting more students will require additional funding, particularly tuition remissions for out-of-state and/or international students.

- d. *Data for the Ph.D. consortium program needs to be disseminated to the normal graduate office communications***

The external review revealed that the ECU Graduate School has not been receiving regular updates on the PhD Consortium, and the extent of involvement by ECU faculty. Effective immediately, all future communications pertaining to program statistics, ECU faculty involvement, advisorships, dissertation committee memberships/chairmanships, etc., will be shared with the Graduate School Dean. In addition, a recommendation has been sent to the PhD Consortium Director at Indiana State University to include all Graduate School Deans in member campuses in such communications and updates.

- e. *Define targets for the faculty to sustain the program and grow the research agenda.***

This recommendation is not clear due to an absence of specifics and context. Nonetheless, this item will be handled in conjunction with 1(c) above and integrated with faculty annual plans at the beginning of each academic year.

- f. *The department needs grant support to increase quality and quantity of submissions.***

This matter ties in with other issues surrounding faculty loads and over-extension due to instructional obligations. We believe that this recommendation can be met by hiring a college level resource person that reports directly to the Dean. Currently, this arduous task is handled by our Associate Dean and departmental secretaries. We propose that this matter to be taken at the college level in conjunction with the office of sponsored programs so that other departments within the college that are in a similar predicament and may benefit from the outcomes. The Dean will be asked to include this as an agenda item for discussion during leadership team meetings during the spring 2013 term.

- 3. A more formalized promotion and tenure process is needed. More mature tenure process with college and university committees established is recommended to be implemented at ECU including the department and the College of Technology and Computer Science. As for the department: The mentor program is a promising start. The current FAR and PAD process for faculty evaluation is a positive step to formalizing the P&T process.**

University tenure and promotion processes are governed by the ECU *Faculty Manual*. In addition, the current system of providing annual progress toward tenure letters (PTT) helps to provide probationary faculty members with formal feedback on their strengths and weaknesses as perceived the department chair and the departmental tenure committee. We appreciate the review committee's recognition of our in-house formal mentoring program for probationary faculty that we instituted during the fall semester of 2010. The issue of formalized processes at the college and/or university levels, however, is beyond the scope of our response; however, we will respond appropriately should the college/university develop new processes. In the meantime, our Tenure and Promotion Committee will be asked to look into this matter during the spring 2013 term and develop recommendations for consideration by the departmental faculty.

4. Re-visit the organizational structure

a. Permanent Chair

This matter has already been addressed section in 1(a) above and should be resolved by the end of January 2013.

b. Compensation/release for program coordinators especially for programs with high enrolment. With several programs currently in place, several coordinators are needed and therefore compensating them may pose a challenge for the department.

This issue is similar to 2(b) above. Program coordinators, like other TSYS faculty members, carry a substantial teaching obligation, in addition to other programmatic demands that are placed on them. This issue has been brought to the attention of our Dean and he is working with the current interim department chair on possible solutions which may go into effect during the 2013/2014 academic year. Needless to say, the department will need assistance with resources in order to meet its instructional obligations. We are hopeful that both the departmental ad hoc committee and the university level committee that is looking into faculty loads will come up with

recommendations for tackling these matters. As mentioned previously, the recommendations should include the criteria to be met in order to qualify for release time and the deliverables to be expected from those who qualify for such release.

- c. *Program Mergers or realignment. The department has a few more programs than most typical department. Due to nature of the discipline, it is expected to more programs than in traditional departments; however it seems that some reorganization can make the department easier to market and manage. Based on the department's self-study, some programs have low enrollment and the faculty should evaluate whether it is meaningful to reorganize some of the programs not only based on enrollment but also based on the strategic goals of the department and the top areas of excellence that the department wants to focus on.***

This recommendation goes hand-in-hand with 1(c) above. It should be noted that the department is already working on recruitment strategies to boost enrolment in our programs. For example, our Industrial Engineering Technology program went through a curriculum revision to alleviate a bottleneck that was preventing students from joining the program. As a result, enrolment in the IET program is starting to rise and should reach capacity in the next two to three years. Other initiatives taken in 1(c) should help the department to prioritize its offerings and pursue targeted recruitment strategies to help main health enrolment in all program areas.

- d. *College level conversation to articulate synergy between departments.***

This is another matter that is already underway. Substantial changes in the college and departmental leadership have presented an excellent opportunity for dialog, fresh ideas, and building collaborative relationships across departments within the college. For example, TSYS shares more than a dozen labs with the department of engineering, and jointly invest operational dollars in the development, upgrade, and maintenance of such labs. Our faculty members have joint instructional and research projects that span multiple departments, both within our college, as well as across the university. Our internal efforts to create distance education training programs and standards involve faculty from all of the departments within our college. Sample collaborative projects include those on sustainability, energy, information technology, STEM, etc.

In addition, the college is fostering collaborative relationships among students from different departments within the college. One notable example was a recent participation in a national robot completion in which a team of students from multiple departments won second place. Lastly, we have seen visible examples of support by other department chairs who openly encouraged more collaboration across departments during our college meeting. We intend to fully capitalize on this renewed energy and momentum and pursue mutually beneficial opportunities for both the faculty and students.

- e. *Resource allocation: Graduate assistantships/research fellows are needed if the University wants more research out of the department. This however requires the department to develop proposals to the Graduate College that demonstrate their plans***

to reach specific goals and the resources (stipends and tuition) necessary to achieve these goals.

This matter is closely related to 2(c) above. As it stands the department receives adequate number of graduate assistantships from the university. What we do need is an increase in tuition remissions to allow us to recruit more on-campus graduate students to support faculty research. In addition, as our enrolment grows, our need for additional resources will increase accordingly.

f. Lab based courses need to be revisited to determine faculty loads. Laboratory meetings need to be integrated into the faculty load calculations.

This matter is similar to 2(b) above and will be addressed using the steps outlined therein.

5. Develop university level metric for measuring impact of outreach/engagement. This will be important for the department, the college and university. The department will benefit tremendously from demonstrating their value added by measuring the impact on the community. The department seems to have already done some work in developing such metrics which can be utilized.

This recommendation goes beyond the scope of an individual department, however, our faculty members have already initiated dialog with Information Technology and Computing Services (ITCS) on the likelihood of taking on this matter on behalf of the university. Currently, one of our faculty members, Dr. Merwan Mehta, and an ITCS representative, Mr. Skip Kirby, are spearheading this effort. We expect to receive period updates and final recommendations as soon as this matter is resolved at the university level.

Summary of Resource Needs in Priority Order

Once more, we wish to reiterate our thanks to the external reviewers for their hard work in reviewing our academic programs, and for the invaluable recommendations for improvement. As enumerated in our responses, the department will need some assistance from the university in order to

1. Hiring of Permanent Department Chair
2. Three faculty lines to support current instructional capacity and provide a mechanism for building research capacity by addressing issues pertaining to program coordination and faculty loads. On average, the department needs to cover a dozen courses with part time faculty each year, which have been supported by limited lapse salary funds from the Dean's office.
3. Resource person to support grants, contracts, proposal preparation, etc.