To: Vicky Carwein, Chancellor
From: Carl Drummond, VCAA
Subject: IPFW Engineering Department Restructuring
Date: 29 August 2014

I concur with the attached recommendation from Max Yen, Dean of the College of Engineering, Technology and Computer Science, to divide the current Department of Engineering into two departments—the Department of Civil and Mechanical Engineering and the Department of Electrical and Computer Engineering.

As noted by the dean, this change is in response to the recommendations found in the 2012 ABET accreditation report. The restructuring will provide:

- Increased quality in program management leading to better outcomes with accreditors, students, and regional partners;
- Focused and nimble departments better able to address recruitment, retention, funded research, and marketing; and
- Better name recognition for the specific degree programs.

This restructuring would be effective 1 July 2015. The Department of Engineering is currently engaged in a planning process which will address issues of space allocation, budget, shared resources, shared programs (i.e. Freshman Engineering and the Master’s program), curricular revisions, promotion and tenure processes, etc. It is anticipated that this restructuring can be managed without significant additional resources.

This proposal has been approved by the Department of Engineering, the College of Engineering, Technology and Computer Science, and Dean Max Yen. I add my support to this proposal.

Recommended Approval: Debasish Dutta, Provost 12-10-14

Approved: Mitchell E. Daniels Jr., President 12-18-14
Debasish Dutta, Provost and
Hal Kirkwood, Chair
Education Policy Committee
Purdue University
West Lafayette, IN 47907

Dear Deba and Hal,

I am writing to inform you that the Academic Organization Committee (AOC) has reviewed the IPFW Engineering Department Restructuring proposal. This proposal has received significant input from the IPFW engineering faculty and the faculty has strong support for the proposed change.

One committee concern is the potential increase in cost that the division might require. The proposal indicates that the division is not expected to result any increase in cost. We would have liked to have seen a more serious analysis of this issue. The AOC hopes that funding levels for the split departments will be maintained at a level that will not favor one division of the split Engineering Department over another.

AOC recommends this change for implementation.

Sincerely,

Craig L. Dobbins
Chair, Academic Organization Committee
To: Carl Drummond, VCAA

From: Max Yen, Dean

Date: June 25, 2014

RE: Restructuring of Engineering Department

We are requesting that your office proceed with the necessary steps to seek for the Purdue Board of Trustees’ concurrence to the restructure of IPFW-ETCS Engineering Department into two departments: Department of Civil and Mechanical Engineering and Department of Electrical and Computer Engineering, effective July 01, 2015. What follows is a summary of the actions and decisions during the past three years regarding the structuring of the Engineering Department:

- The faculty of the Department of Engineering at IPFW have had a series of discussions on how to restructure the department in order to improve the management and the goals of its current four ABET engineering programs throughout the last three years.
- A proposal to split the department into two departments: Civil and Mechanical Engineering (CME) and Electrical and Computer Engineering (ECE) was approved by the faculty and the college dean in the spring of 2012. Attached is the original proposal that includes the rationale and the advantages of creating two engineering departments at IPFW.
- In the summer of 2012 the final ABET report reiterated the need to have more autonomous Electrical and Computer Engineering programs. As of this date this concern has not been addressed.
- In the spring of 2014 a decision to create the CME and ECE departments was reaffirmed through a process involving all the current faculty members in the Engineering Department, the Dean, and the VCAA. This process included evaluating other possible restructure models. The final decision was to create the two departments as envisioned in the 2012 resolution.

Attached please also find the letter of recommendation for the split of Engineering Department submitted by the departmental faculty, the department chair, and the dean in 2012.

In essence, what lies ahead is to develop the proper paper work leading toward the approval of the Board of Trustee so that the Department of Civil and Mechanical Engineering and the Department of Electrical and Computer Engineering can be launched by July 01, 2015.

Your support to this recommendation is greatly appreciated!
Spring 2012 - Proposal to create two engineering departments

Background

The IPFW Department of Engineering was established in 1968, initially offering a two-year transfer program to Purdue University West Lafayette. In 1981, the department was authorized to offer a Bachelor of Science degree in Engineering (BSE) with areas of specialization in electrical engineering and mechanical engineering. Then, effective in 1992, the department began to offer degrees in mechanical engineering (BSME) and electrical engineering (BSEE). Both of these degrees soon became ABET accredited.

In 2003, the Bachelor of Science degree in computer engineering was approved by the Purdue Board of Trustees and the Indiana Commission of Higher Education (ICHE). The computer, electrical, and mechanical engineering degrees were successfully accredited by ABET in 2006. In 2006, the Bachelor of Science degree in civil engineering was approved. The civil, computer, electrical, and mechanical engineering programs have been reviewed by ABET in the fall of 2011. In 2007, the Master of Science in Engineering (MSE) degree program was approved.

Over the past 40+ years, the department has evolved to meet the needs of the community and industry in northeastern Indiana. The number of faculty has necessarily increased to support the four separate undergraduate degrees and the new graduate program. In addition, as shown in Fig. 1, the number of students and the number of credit hours taught has shown modest growth over the years. However, the structure of the department has remained virtually unchanged for more than 40 years.

With four separate undergraduate engineering degrees, a new graduate program, and a freshman engineering program, the management and direction of the department has become unwieldy and lacking of focus. While these are all engineering programs, each program has a separate curricula and distinct philosophical differences. Moreover, increased demands for research productivity and industrial engagement have further taxed the department. Under the current structure, the only feasible management approach is to stay in “maintenance mode” — there is little time to explore opportunities for improvement, innovation, or growth.

To the best of our knowledge, there is no engineering department in the United States that manages four or more ABET-accredited engineering programs. An additional note, a concern raised in the Exit Report (fall 2011) by the ABET reviewer of the computer engineering states: “Currently the department chair simultaneously runs three other much larger programs. If the program were to grow, this structure appears unsupportable. There are many special demands on the computer engineering program because of its small size, and the potential exists for its issues to be ignored. In particular, there may not be sufficient leadership bandwidth to allow the program to improve.”
Spring 2012 - Proposal to create two engineering departments

Proposal

It is proposed to divide the current department in two units: a Department of Civil and Mechanical Engineering and a Department of Electrical and Computer Engineering.

This realignment will group the more closely related programs that share portions of their curriculum. This type of division is not uncommon in institutions that have an engineering history and enrollment similar to IPFW. Two examples are the engineering programs at Purdue Calumet and the West Point Military Academy. The proposed departments will share the freshman engineering program and the graduate program. In addition, students will be able to take a common senior design course sequence which will promote the multidisciplinary aspects of engineering.

Advantages of the new structure

- This restructuring will make the department more focused and nimble to effectively address issues such as recruitment, retention, funded research, and marketing.
- Separation into closely related programs provides better name recognition when compared to a generic "Department of Engineering." This type of distinction will help attract students as well as faculty and future department chairs.
- This division will substantially increase the quality of the management of the programs in each department which will lead to better outcomes when the accreditation board reviews the programs.

Steps already taken to facilitate the process of the creation of the two departments

In November of 2011 the dean to the college of ETCS, Dr. Yen, appointed a faculty committee representing the four engineering programs. In addition to Dr. Yen, the members of this committee are: Dr. Suleiman Ashur, Dr. Pomalaza-Ráez, Dr. Elizabeth Thompson, and Dr. Nashwan Younis. The committee has since met regularly, about once a week, and have already addressed and recommended solutions to most of the procedural details related to the division of the department. The following list briefly summarizes the committee’s work to this date:

[1] Assignment of courses to each department
[2] A process to assign students to each department. This process includes the freshman and graduate students.
[3] Assignment of faculty and technical support to each department
[4] Assignment of classrooms and laboratories to each department
[5] Assignment of which department will be tasked to staff, support, and manage cross-listed and freshman engineering courses
[6] Assignment of the location of the offices of each department
[7] Met with the Registrar to learn the details and the time it will require to actual perform [1] to [4] above
[8] Initiated talks with IPFW Physical Plant regarding the logistics of faculty moving from one office to another
[9] Agreed with the dean’s office to share with the department the costs related to the department split
[10] Discussed with the department chair and the dean budget related issues
[11] Met with the Administrative Assistants and discussed their needs and new roles
TO: Dr. Max Yen, Dean
ETCS

FROM: Faculty, Department of Engineering

DATE: March 26, 2012

SUBJ: Restructuring the Department of Engineering

DISPOSITION: To the ETCS Dean for Pursuing

WHEREAS, Restructuring will make the department more focused and nimble to effectively address issues such as recruitment, retention, funded research, and marketing; and

WHEREAS, Separation into closely related programs provides better name recognition when compared to a generic “Department of Engineering.” This type of distinction will help attract students as well as faculty and future department chairs; and

WHEREAS, Division will substantially increase the quality of the management of the programs in each department which will lead to better outcomes when the accreditation board reviews the programs;

BE IT RESOLVED, That the Department of Engineering recommend the necessary structures and resources be developed and then the department be split into:
1. Department of Civil and Mechanical Engineering (CME)
2. Department of Electrical and Computer Engineering (BCE)

APPROVING
Alhassan, M.
Ashur, S.
Bi, Z.
Chen, Z.
Chen, D.
Eroglu, A.
Kang, B.
Liu, Y.
Moor, S.
Njock-Libii, J.
Pomalaza-Raez, C.
Thompson, E.
Wang, G.
Younis, N.T.

Not Approving
Walter, S.

Absent
Abu-Mulaweh, H.
Cooklev, T.
Oloomi, H.
To: Max S. C. Yen, Ph.D.
Dean of the College of Engineering, Technology, and Computer Science

From: Donald W. Mueller, Jr., Ph.D., P.E.
Chair, Department of Engineering

Subject: Resolution on restructure of the Department of Engineering

Date: 27 March 2012

The purpose of this memo is to report the vote on the Department of Engineering's resolution for restructure.

This packet contains a justification for the restructure and the resolution as voted on by the faculty. The resolution is on the last page of this packet.

The vote was fourteen (14) in favor, one (1) opposed, and three (3) absent.

As chair of the department, I did not participate in the vote. However, I support this resolution. I join my colleagues in anticipation of an exciting time of growth and development of engineering at IPFW.
TO:        William McKinney
           Vice Chancellor for Academic Affairs

FROM:      Max Yen, Dean

SUBJECT:   Split of Engineering Department

DATE:      March 30, 2012

Cc:        Donald Mueller, Jr., Chair, Department of Engineering
           Kim McDonald, Associate Dean

Attached please find a memo from Dr. Donald Mueller, Jr., Chair of the Department of Engineering, recommending the split of the Department of Engineering into two departments: Department of Civil and Mechanical Engineering (CME) and Department of Electrical and Computer Engineering (ECE). This recommendation (attached) has received strong support from the faculty of the Department of Engineering. In addition, the split is also in line with the recommendation that we received from the ABET.

Also attached please find the proposal for the split of the Department of Engineering which outlines the preliminary steps taken as well as the recommended actions (time table) leading toward completion.

Incurred with the split, each new department will have to have a department chair and a full-time secretary. This would mean resources to fund the stipends for administration duty of a chair and a full-time secretary staff. I understand that the need of resources comes at the time of budget uncertainty. Therefore, I will work with you to address the department need by looking at the process of internal reallocation.

In any case, I want to commend the Department of Engineering by taking this important step toward bringing the proposal with the utmost spirit of concurrence and professionalism. Therefore, I hereby recommend to you that the proposal of splitting the Department of Engineering be approved through you and the Chancellor and be submitted for the consideration of the Purdue Board of Trustees.

Your support to this matter is greatly appreciated!