

ELIZABETHTOWN COLLEGE

Proposal for Self-study and External Review of the Computer Science Department (including a request for administrative support)

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Purpose

Consistent with the institutional objectives of Elizabethtown College, the Department of Computer Science has begun a self-study that will lead to an external review in the Fall of 2009. The Degrees offered by the CS department are **BS Computer Science**, **BS Information Systems**, and **BS Computer Engineering** in partnership with the Department of Physics and Engineering. A review of all three programs will be included in the self-study. Upon completion of the external review, the CS faculty will decide on whether or not to pursue accreditation by ABET, the sole national accrediting body for all Computing and Engineering programs. The self-study will be executed to the national standards established by ABET.

Concurrent Actions

The Department of Physics and Engineering in cooperation with the Department of Computer Science is already pursuing ABET accreditation for the Computer Engineering major (**BS Computer Engineering**) and for the newly-approved Engineering major (**BS Engineering with options in Electrical Engineering, Mechanical Engineering, or Applied Physics**). Possibly the Industrial Engineering major will be added to that accreditation drive. This effort included a **\$59,085** proposal submitted to the Elizabethtown Administration on February 21, 2006. The Computer Science department is already intimately involved in this effort (especially Dr. Wunderlich, Computer Engineering Program Coordinator). The targeted timetable is to complete the accreditation process by late 2008.

Coordination

Dr. Joseph Wunderlich, Associate Professor of Computer Science and Computer Engineering Program Coordinator, will have the responsibility to assemble the self-study report; to solicit and assemble relevant materials from all department members; to supervise all clerical work; to manage the preparation of relevant documentation and exhibits for the visiting external review; and to organize the external review including all documentation generated from the review. Dr. Wunderlich's qualifications for this assignment include:

- Eight years of employment at Elizabethtown College
- Presently working closely with all faculty involved with the ABET accreditation drive for the Computer Engineering major and for the newly-approved Engineering major.
- Previously created a partial list of ABET outcomes assessments for Computer Engineering Curriculum (Etown 2002 and 06)
- Previously drafted a revised Etown Computer Engineering curriculum (to incorporate load-shift and accreditation) (Etown 2003)
- Previously published a paper and gave talk on accreditation: Wunderlich, J.T. (2003). **An inside view on ABET engineering accreditor training**. In *Proceedings of 2003 ASEE Annual Conference & Exposition, Nashville, TN*: (session 3560), [CD-ROM]. ASEE Publications.
- Previously completed an official IEEE ABET 8-hour accreditor training course, Albuquerque, NM (6/01)
- Previously participated in a 12-hour Internal Purdue ABET mock-accreditor visit of Purdue's Kokomo campus. Dr. Wunderlich was one of four mock-accreditors; the other three had official ABET accreditors experience (Purdue 3/99)
- Previously completed a two-day Purdue internal ABET mock-accreditor training course (Purdue 2/99)
- Previously a member of a Purdue University Accreditation Committee (Purdue 8/98-6/99)

College Administration Involvement

We are seeking College administration involvement and financial support for the following initiatives:

1. Participation in the Drafting and Review of Mission and Vision Statements.

We recommend that College administration be involved in drafting and approving mission and vision statements of the department of Computer Science. ABET standards require departments to prove that programs are consistent with a number of professional criteria in relation to their institution's stated mission and to their various constituencies' perceived needs. Also, if the CS department decides to continue towards accreditation after the self-study and external review, the main instrument in presenting the case to the ABET evaluation team, before and during their visit on Campus, is the self-study – which must address all required ABET criteria.

2. Financial and Clerical Support

A self-study performed to ABET standards is a complex process that requires substantial commitment of time and resources. The following measures have been identified as necessary to assure the implementation of this plan.

- (a) **2007-09:** Supply money for related equipment and supplies (e.g., photocopying, mailings, etc.) Estimated costs: \$500 per semester for five semesters = \$2500
- (b) **2007-09:** Support in hosting an advisory council of industrial advisors (and possible other interested constituents) twice a year. Estimated cost, \$500 per year in addition to the \$2,500 per year already budgeted by the P&E department (i.e., the P&E and CS faculty have agreed to share this committee, and new members will be added)
- (c) **2007-09:** Release time for Dr. Wunderlich who will carry the burden of leading the self-study drive. Four hours for two semesters (Fall 08 and Fall 09). He will solicit and assemble relevant materials from all department members; supervise all clerical work; manage the preparation of relevant documentation and exhibits for the visiting external review; and organize the external review including all documentation generated from the review. Cost estimated at the equivalent adjunct hiring rate; two semesters at \$3497 = \$6994.
- (d) **Summers 07, 08, 09:** Summer faculty stipends for Dr. Wunderlich to:
 - 1) **SU 07:** Write detailed outline and schedule of required documents and tasks needed for self-study. Cost = \$ 1,000
 - 2) **SU 08:** Write draft of self-study. Cost = \$3000
 - 3) **SU 09:** Write the final self-study report including incorporating a self-study of the Computer Engineering program. Cost = \$2000
- (e) **2007-09:** Secretarial support for three semesters (Spring 08, Fall 08, Spring 09) according to the cost estimate of \$11.00 per hour, 20 hours per week, 16 weeks per semester. The P& E department has agreed to share their present ABET-dedicated secretarial support for Fall 07, and this person will likely continue on behalf of the CS department for Spring 08, Fall 08, Spring 09.
- (f) **Summer 09:** Financial support for external review consultants to visit in Fall 09. Estimated needs: two external consultants for two days on-campus visit. Cost = approximately \$5,000

Potential additional costs:

Should the CS faculty decide to pursue accreditation for the BS Computer Science and BS Information Systems degrees after the self-study & external review are completed, the following costs can be expected:

- o Four contacts hours of release time for one faculty member to implement improvements suggested by consultants, including updating self-study. \$3,497 estimated at the equivalent adjunct hiring rate.
- o Fees for the accreditation process as required by ABET. Estimated in the range of \$8,000-12,000.
- o Additional costs to redo the self-study if accreditation not pursued immediately after completion of self-study & external review.

The projected budget is detailed per academic period in Table 1.

PROJECTED BUDGET 2007-2009 for Self-study and External Review of Computer Science Department

Item	Description	SU 07	F 07	SP 08	SU 08	F 08	S 09	SU 09	F 09	
a	Equipment / Supplies		\$500	\$500		\$500	\$500		\$500	
b	Advisory Council Meetings			\$500			\$500			
c	Faculty Release Time					\$3,497			\$3,497	
d	Faculty Summer Stipends	\$1,000			\$3,000			\$2,000		
e	Secretarial support			\$3,520		\$3,520	\$3,520			
f	External Review							\$5,000		
TOTAL PER PERIOD		\$1,000	\$500	\$4,520	\$3,000	\$7,517	\$4,520	\$7,000	\$3,997	07 - 09 TOTAL \$32,055

A few major questions to be answered as part of the self-study:

1) How relevant is accreditation to the CS and INFSYS degrees?

While there is little argument against accreditation for Engineering programs including the Computer Engineering (**CENGR**) degree offered in-partnership by the CS and P&E departments, research must be undertaken to prove that the Computer Science (**CS**) and Information Systems (**INFSYS**) degrees have an equal need for accreditation.

2) When would the CS department be ready for accreditation of the CS and INFSYS degrees?

There is much information to gather before this can be answered; however with regard to the maturity of the department, the CS department has had a substantially strong technical presence on the Elizabethtown Campus for many years as demonstrated in the graphs below which compare statistics for all the Colleges technology-oriented degrees (i.e., majors offered by the Departments of Computer Science and Physics & Engineering):

First Year Degree Awarded	Last Year for Degree	Degree Abbreviation	Degree Name
1995	-	CENGR	Computer Engineering
1983	-	CS	Computer Science
2004	-	INFSYS	Information Systems
1971	2005	CSBIS	<i>Computer Science Business Information Systems (discontinued)</i>
2008	-	EGR	Engineering with Electrical, Mechanical, Applied Physics options
1992	2008	EGRPY	<i>Engineering Physics (discontinued)</i>
1992	-	IENGR	Industrial Engineering ("Management" recently added to name)
1966	-	PHYS	Physics
1984	-	PRENG, 3-2	Pre-engineering 3 years at Elizabethtown, 2 years PSU typically
1995	-	PHYSed	Physics Education

