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To: Gail L. Dubrow  
Associate Dean for Academic Programs

From: Richard Lee Storch  
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**Industrial Engineering Program Review  
Response**

The program review committee provided a thorough and comprehensive review of the Industrial Engineering Program. They effectively collected information from important sources and did an excellent job of converting these inputs into findings and recommendations. In general, I agree with most of what is presented in the final report. This response discusses a few minor points of disagreement, but primarily describes the actions already taken and those currently planned as a result of this and other evaluations of Industrial Engineering.

In the past few years, the Industrial Engineering Program has undergone an accreditation (ABET) review and this program review. In addition, IE has solicited input from students, primarily through the student advisory board, and industry, primarily through the visiting committee. There has been some consistency in comments and suggestions received and as a result, changes have taken place and plans have been developed to address a number of the issues raised.

The review committee has identified the strengths of the program accurately. Notably, the program and its graduates are of critical importance to the State of Washington and the Pacific Northwest. In fact, our graduates are recruited nationally and internationally, with recent industry placements in Ford, General Electric, and IBM (New York and Tokyo). Academic placements are also on a national and international scale, with IE graduates at universities in China, Thailand, Iceland and New Zealand. This indicates that IE has solid undergraduate and graduate programs and excellent collaboration with industry. The IE faculty is accessible and committed to providing a high quality education. IE's staff is highly motivated and effective. The students are cohesive, highly motivated and very supportive of IE. In recent years, the number and quality (using any measure) of applicants and consequently of those admitted to IE has increased substantially. These are all evidence of a strong and effective program.

The weaknesses identified by the review committee are also generally accurate. In my opinion, the undergraduate curriculum is consistent with contemporary needs, as evidenced by the fact that our graduates “are performing important roles” in manufacturing and service industries. I agree there is a need for more coverage of service industry applications in the curriculum, and this is being addressed by offering special topics courses as technical electives and by increasing the number of service industry examples used in current courses. While additional faculty would certainly enhance the ability of IE to cover a broader curriculum, we have successfully covered the core curriculum for many years. The weaknesses noted are of concern to IE and a number of actions have been taken to address them.

The recommendations, for the most part, are reflective of the direction that IE has taken in the last year. Based on discussions with the student advisory board and the visiting committee, the faculty approved a revision to the undergraduate curriculum last spring. The revised curriculum was presented to and approved by the COE Council on Educational Policy in the fall and was accepted by the University curriculum committee in December. The new curriculum offers more flexibility, and reduces the teaching load on the faculty while maintaining the strength of the current curriculum. Additionally, a number of 3 credit undergraduate courses will be increased to 4 credits, both to further reduce the number of courses that must be taught, and to add material related to service systems and information technology. These actions reduce the rigidity of the curriculum, improve coverage of important new areas, including information technology and service systems, and reduce the number of undergraduate sections required to be taught by regular IE faculty.

At the summer retreat, faculty discussed the potential to focus research activity within IE. This discussion, associated with the opportunity to fill an open faculty line, produced unanimous agreement on two primary areas of collaborative research: integrated logistics systems and bio-industrial systems. As a result, collaborative research proposals in both areas have and are being prepared, and the faculty search advertisement specifically mentions these research focus areas. The work in integrated logistics systems has included discussions with faculty from the Business School, and Prof. Klastorin has been asked and has agreed to serve on the search committee. This research focus area will serve as a springboard to closer collaboration between IE and the Business School. I have collected names of potential search committee members from Health Sciences for applicants in the bio-industrial area.

Over the past few years, IE has used its strong industry connections to offer additional graduate courses. These courses have been taught by Ph. D.s working in local industry, and have covered important current topics, including operations research theory and application in ERP systems, network optimization applied to air traffic control, and haptic applications in virtual reality. Prof. Mastrangelo, currently a visiting associate professor, taught a new graduate course in data mining last year. Graduate courses in Mathematics and Statistics have and continue to be encouraged and accepted for IE graduate students. Many of IE’s graduate students have taken courses in the new GTTL program, and we

continue to encourage participation in that program. The reduced rigidity of the undergraduate program should also permit IE faculty to offer additional graduate courses.

The most recent five-year strategic plan was completed in May 1999. IE has recognized that it is time to review and update the plan. That is one of IE's priorities for this year. The plan will be reviewed and updated in stages throughout the academic year at regular faculty meetings, with a goal of completing the new plan at the summer retreat. Having been intensively reviewed over each of the past two years, IE is in an excellent position to complete a new strategic plan.

Mentoring of faculty is a critical function. As acting director, I take full responsibility for this function. One of my first actions was to meet with junior faculty. At this time, there are two faculty members approaching promotion and tenure review. The remaining faculty members are at the full professor level. One of the two was on leave fall quarter. I have been meeting with the other monthly to review progress. I plan to do the same with the second starting this quarter. My goal is for IE to be clear about expectations and as supportive of these young faculty members as possible.

Finally, I believe that the IE program has shown it is fully capable of operating successfully as an academic unit, providing solid IE BS, MS and PhD degrees. Although we are small, our productivity is commensurate with our size and we have a high quality faculty, staff and student body. Our small size creates the cohesiveness evident in the student body, and makes us agile in responding to new needs and requirements, as reported above. I request the next IE program review take place at the normal 10 year cycle.