

Jim:

Attached is the Engineering Sales Minor proposal that I called about today. This was passed by the Engineering College Curriculum Committee unanimously and also by the College of Engineering Faculty in November 2009 by a vote of 110 yes (69.6%), 31 no (19.6%) and 17 abstain (10.8%).

I would appreciate it if you would place this on the agenda for the next FSCC. Please let me know if you have additional questions.

Thanks,

Vern Schaefer
Chair, ECCC

Program Proposal for Engineering Sales Minor

1. Name of the proposed minor.

Engineering Sales

2. Name of the department involved.

Department of Industrial and Manufacturing Systems Engineering

3. Name of contact persons.

Dr. Frank Peters, Department of Industrial and Manufacturing Systems Engineering

Dr. Dave Sly, Department of Industrial and Manufacturing Systems Engineering

Dr. Gary Mirka, Department of Industrial and Manufacturing Systems Engineering

4. General description of the minor.

The Engineering Sales Minor is comprised of 15 credits of which 12 credits are from a group of required courses and the remaining 3 credits are selected from a short list of supporting or optional courses. For this minor, 9 credits may not be used to satisfy any other department, college, or university requirement.

The course requirements are as follows:

Required courses (15 credits)

- IE 450X – Technical Sales for Engineers
- IE 451X – Technical Sales for Engineers II
- Mkt 340 – Principles of Marketing
- Mkt 343 – Personal Sales
- One of the following:
 - IE 305 – Engineering Economic Analysis
 - CE 303 – Professional Issues in Civil Engr.
 - Fin 301 – Principles of Finance

5. Need for the proposed minor.

Many engineers are hired into positions involving sales and marketing of technical products, services and systems. As a point of reference, of the 594 positions advertised through the College of Engineering Career Services in November 2007, 61 were sales-related positions and an additional 39 were marketing-related positions. Employers have expressed a need to be able to hire engineers that not only have strong engineering problem solving skills, but also have knowledge of the technical sales process. This minor will help fulfill that need by equipping engineering students from any engineering major with knowledge and expertise in technical sales.

Industry and alumni have also demonstrated the need for this minor by providing monetary and advisory support. An active industrial advisory group is providing direction and guidance for the program and has also offered to provide case studies, examples, and other material to support the development of the courses and minor. Monetary support has also been provided to support this initiative through an endowment.

6. Objectives of the proposed minor including the student learning outcomes and how the learning outcomes will be assessed.

The objectives of the proposed Minor are to provide a broad understanding of the technical sales process, primarily from the business-to-business perspective. At the conclusion of the minor, students should be able to:

- Calculate a return on investment and communicate to customer
- Determine payback period for a given solution and communicate to customer
- Perform a market segmentation
- Develop a client value analysis
- Perform prospecting and business-to-business marketing
- Identifying decision makers and processes
- Managing a sales process
- Use sales automation software
- Apply knowledge of underlying international sales issues
- Prepare written and verbal sales presentations
- Provide information about product/service pricing
- Lead a team selling process
- Establish sales channel management procedures
- Develop sound distribution strategies and global sales processes
- Formulate bid strategies/negotiation strategies
- Employ good time management skills

Learning outcomes will be assessed using both traditional assessment techniques (tests, quizzes, homework and term papers) but will also rely somewhat on the MBA model of learning assessment including case studies, experiential learning and working directly with industrial partners in involving students in actual business-to-business sales scenarios.

7. Relationship of the Minor to other programs at Iowa State University.

The Department of Marketing in the College of Business is a related program, and we have worked together with this department in the development of the curriculum for the proposed minor (see the attached letter from Dr. Thomas Chacko). The focus of this minor in Engineering Sales is on the technical sales process which is fundamentally different from the sales focus in the Department of Marketing. While we rely heavily on several courses from this department, the two courses in industrial engineering (IE 450X and IE 451X) extend the content of the marketing classes into the technical sales realm.

8. Relationship of the minor to the strategic plans of the university, of the college, and of department or program.

The strategic plans of the university consider the education and training of tomorrow's workforce to be of primary importance. Industrial constituents have made it very clear that this Engineering Sales Minor will provide industry with engineers that possess this critical set of skills.

9. Comparison of the proposed minor with similar programs at other universities, including the Regent's universities.

Both of the other Regent's universities offer a marketing degree in the college of business, similar to that of Iowa State University. As with the comparison made in Section 7 above, the focus on the technical sales process is what distinguishes this program from those offered at the other Regents' universities.

Outside of the state of Iowa only two similar programs have been identified. One is found at the University of Florida (Sales Engineering Minor) and the other is found at the Erie campus of Penn State University (Technical Sales Minor).

10. Program requirements and procedures, including:**a. prerequisites for prospective students;**

Enrolled at Iowa State University as a student in the College of Engineering.

b. application and selection process;

Complete and submit the official ISU "Request for Minor" form. The selection process is based on approval by the department administering the minor, which is Industrial and Manufacturing Systems Engineering.

c. language requirements;

None

d. related courses and seminars presently available for credit toward the program;

All listed courses in Section 4 are presently available.

e. proposed new courses or modifications of existing courses;

At this point in time, there is no proposed new course or modification (IE 450X has been offered Fall 2008 and Spring 2009 while IE 451X has been offered in Spring 2009).

f. advising of students;

Advising of students will be combination of their respective advisors within their major department along with, in the case of the minor, the Industrial and Manufacturing Systems Engineering advisor.

g. implications for related areas within the university;

Increased demand for Mkt 340

Increased demand for Mkt 343

11. General description of the resources currently available and future resource needs, in terms of:

a. faculty members;

Dr. David Sly, IMSE Department:

Dr. David Sly is a lecturer in the Department of Industrial and Manufacturing Systems Engineering. As an entrepreneur and businessman himself, Dr. Sly is particularly well-prepared to teach the two new courses (IE 450X Technical Sales for Engineers and IE 451X Technical Sales for Engineers II). There is no need projected for any new future resources in terms of faculty time beyond those already provided through Dr. Sly's services.

b. computers, laboratories, and other facilities;

Current computer and laboratory facilities are sufficient for this minor. No future resource needs are projected.

c. library facilities (journals, documents, etc.) in the proposed area;

Current library facilities are sufficient for this minor. No future resource needs are projected.

d. supplies, field work, student recruitment, etc.

No additional supplies, field work activities or student recruitment efforts will be required beyond that which is currently performed in the department.

12. Describe the needs for new resources and/or reallocated resources. Attach to the program proposal memos from the department chair(s), the college dean(s), and other appropriate persons, agreeing to the allocation of new resources and/or the reallocation of resources.

No new or reallocated resources are required.

13. Attach to the program proposal, letters of support, recommendations, and statements when appropriate, from programs and departments at ISU which are associated with the proposed program or have an interest in the proposed program.

Dr. Thomas Chacko, Chair, Department of Marketing

14. If the new program is interdisciplinary, a governance document should be created and submitted to the Associate Provost for Academic Programs. Indicate here that it has been completed.

Not applicable.

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Interoffice Communication

Date: April 3, 2009

To: Gary Mirka
Professor and Chair
Department of Industrial and Manufacturing
Systems Engineering

From: Thomas Chacko 
Professor of Management and Chair

RE: Sales Engineering Minor in the Department of IMSE

I am writing in support of the undergraduate minor in Sales Engineering within the Department of Industrial and Manufacturing Systems Engineering. Thank you for allowing us to review the proposal and being open to suggestions for improvements to the minor course work. The marketing department has reviewed the proposal incorporating these changes, and to the explanatory text within the proposal. These suggested improvements were satisfactorily incorporated into the final document. We believe that the proposed program will complement the sales offerings within the marketing department and will ultimately expose more engineering students to the opportunities available within the College of Business.

We believe that the collaboration between our two departments, Industrial and Manufacturing Systems Engineering and Marketing, will provide an enriching learning experience for students in both our departments. The proposal has our full endorsement.
