2003 -2004 Annual Report

Master’s Degree in Technology Management

Division of Applied Science and Technology

College of Information Technology and Engineering

Neal Lewis
November 2004
Management Changes

There have been significant changes in the management of the program over the past year. Dr. Bernard Gillespie, Professor of Engineering and program coordinator, retired in May 2004. He was replaced with the hiring of Dr. Neal Lewis from the University of Missouri – Rolla in August 2004.

Dr. Herb Tesser stepped down as Division Chair in the winter of 2004. The College of Information Technology and Engineering was reorganized into two divisions, the Division of Engineering and Computer Science, and the Division of Applied Science and Technology. The Technology Management program is now in the Division of Applied Science and Technology, with Dr. Tony Szwilski as Interim Chair.

The Technology Management program has continued to serve its students during this transition. The enrollment of students continued and all program courses continued to be offered. Continuity in the program was maintained through the work of Dr. Szwilski and Elizabeth Hanrahan, Associate Dean.

Previous Assessment

Feedback on the 2003 program review was received in September 2004. The primary tools used in the 2003 assessment were surveys and course completion rates. The assessment feedback indicated that the Technology Management program is in the beginning stages of developing a viable assessment program. Overall assessment scores were relatively low compared to a mature assessment program. Some of the feedback included:
- The program should make sure that the learning outcomes relate to student academic achievement at the program level.
- The program may wish to remove the entrance standard as a learning outcome.
- Assessment measures should also be revisited.
- Student and employer surveys are important indirect measures of student attitudes, but it is preferred to have direct measures as well.
- Course completion does not indicate student competency.

Based on this feedback, the assessment tools for the Technology Management program were not updated for 2004, but rather need to be completely reevaluated. Rather than update the previous tools, work will be performed during the 2004-05 calendar year to create a new set of assessment tools for the program.
Potential Options for the Revised Assessment Program

a. Restate the Student Learning goals. The goals stated in the prior annual reports are not the same as the program goals that have been published in the University Catalog or in promotional flyers. Some of the learning goals are difficult to measure, such as Critical Thinking. The recent feedback was not supportive of past measures that included surveys and course completion rates.

I recommend breaking the program goals into two areas: 1) student learning and program delivery; and 2) tracking of admission and graduation statistics. These goals need to include an objective means of measuring success.

b. Insert several “standardized tests” into various points in the program. For instance, there are tests to determine competence in engineering economics that are given by various institutions. The Project Management Institute has tests to certify project managers based on a test of expected knowledge. Versions of these tests (or portions of them) could be used to directly assess the learning of our students using a qualitative, objective set of measures.

c. A CITE Faculty Course Assessment Report form is available, which is based on a form developed by John K. Estell of Ohio Northern University. The use of this form could be instituted as a semester-end critique of the course by all instructors of TM courses (including adjuncts). The use of this form would create a continuous assessment of TM courses, which should lead to improvement in the delivery of course material. A copy of a blank form is attached.

d. Program certification. There are only a few organizations that are directly linked with Technology Management programs such as ours. These include the Academy of Management (AOM), International Association of the Management of Technology (IAMOT), and the American Society for Engineering Management (ASEM). ASEM has initiated a new set of certifications, both for Engineering Management programs and for Management of Technology programs. Pursuing an ASEM certification would provide us feedback on our individual program from a set of people who are familiar with other similar programs across the country. The value of the certification process lies as much in the learning gained as it would in the actual certification itself. We need to determine if a certification program is worth the cost (including the time and effort).

Plans for the Coming Year

The Technology Management assessment will be revised. Student learning goals will be redefined along with their measurement tools. Tracking of other items will also be defined. A “scorecard” will be created, reflecting the on-going results in these areas. The work will be the responsibility of the program coordinator (Neal Lewis). The work will be supported by the Division Chair and the Associate Dean.
Current Status

In spite of the changes in faculty and administration, the Technology Management program is healthy. In the past year (October 2003-July 2004), 10 students graduated with an M.S. degree. In addition, 23 new students were admitted to the program, including eight minorities (four of which are foreign students) and women. The total number of active students as of September 2004 was 46, down slightly from 50 the previous year.

All regularly scheduled courses have been offered in the past year. Dr. Neal Lewis is teaching the same set of courses previously taught by Dr. Bernard Gillespie. In addition, Dr. Lewis is teaching EM 660, Project Management, at Shawnee State University in Portsmouth, Ohio.

The program is continuing to attract qualified students, and new students are currently being enrolled for the coming spring semester.

Neal Lewis, Ph.D.
November 26, 2004
Graduates and New Students, Spring & Fall, 2004

Graduates
Spring 2004
Anna Sintsova Banks
Andrew Brannon
Zahid Sutan Chaudhry
Allen Clarkson
Juan de Dios Barrios
Leonard Kelley
Kyle Schafer
Suppapong Siripong
Megan Stone
Phonphat Tepboon

New students admitted to the program

Spring 2004
Jason Elliott
Chien Huang
Keith Kaiser
Christopher King
Luke Short
Jeremy Woods
Ben Maynard

Fall 2004
Randy Aldridge
Jeffrey Burdick
Danielle Cox
Pierre Cure
Isidor Domquia-o
Nathan Eisinger
John Inghram
Craig Jones
Marques Jones
Casey Jordan
Jeff Palmer
Hugo Perez
Gordon Pugh
James Sanders
John Smythe
Daniel Williamson
Attachment 1, CITE Faculty Course Assessment Report

Course number, title, section(s):
Semester and year offered:

Catalog Description:

Grade Distribution:

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<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>W</th>
<th>CR</th>
<th>NC</th>
<th>TOTAL</th>
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Modifications made to course:

Course Outcomes Assessment:

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1 Based on the form developed by John K. Estell of Ohio Northern University
Communications:

Ethics:

Contemporary Issues:

Student Feedback (Comments from Student Evaluations):

Reflection (What worked, what did not work, other summary course comments):

Proposed actions for Course Improvement:
Academic Standards

A. Faculty
1. There will be at least one full time EM faculty member responsible for the program.

2. Full time faculty members will teach one-third or more of the courses. State how many of these are faculty members are designated Engineering Management.

3. The faculty workload must be reasonable and appropriate for the stated mission of the program.

B. Curriculum Requirements

1. A balance between qualitative and quantitative courses

2. At least one third of the curriculum will be management and management related courses.

3. Management of Technology courses must be appropriately designated in the academic catalog.

4. Course material must be directly related to technology driven organizations.

5. The curriculum must require each student to demonstrate a command of written and oral communication skills in English.

6. Courses must relate to knowledge workers in a global environment.

7. Each student is required to perform a capstone project or thesis using analysis and integration of Engineering Management concepts.

8. A minimum of one course in probability and statistics

9. A minimum of one course in engineering economy

10. Two courses in quantitative analysis courses are required.
C. Students
Admission Requirements
1. Two years of engineering experience in a company based in a developed country or
   Current full time employment in a US based company in a technical or management discipline.

2. For unqualified admission, a 3.0 grade point average from an appropriately accredited undergraduate program.

3. Other students may be admitted provisionally with an appropriate mathematical background.

4. Administration
   Students must have access to an academic advisor for the purpose of planning a program of study that meets both degree and the student’s professional requirements.

5. Support
   The student must have access to appropriate literature. This usually means access to a library with a collection of books and periodicals appropriate to engineering management theory and practices.

D. Administrative Support
The program must have access to sufficient resources and facilities to meet the needs of the targeted student population. Resources generated by the program are sufficiently reinvested in the program.
Certification Process

The Certification Visit

- The Certification College of ASEM will select an evaluation team for each program making application to be certificated.

- The team makeup will be discussed with the chair of the applying program. Adjustments in committee makeup will be made as necessary.

- Three evaluators will be selected to make the visit.

- They will use the criteria adopted by ASEM in making the assessment.

Certification Results

- Programs found to be in conformance to the criteria will receive a four-year certification.

- Those programs with minor infractions that may be corrected within a short period of time – one academic year for example will receive a two-year certification. If necessary, a follow-up visit may be required to assess the value of changes made. One visitor will make the follow-up visit.

- Submission of evidence of appropriate correction will result in a four-year certification from the date of the initial visit.

- Meritorious programs that do not conform to all Engineering Management certification requirements may be certified as an alternative program. Management of Technology programs are evaluated according to standards shown above.

- Alternative Program Certification is for programs (such as Management of Technology Programs) that have a well-designed curricula, that have a specified and limited mission and that meet most of the EM certification requirements.

- All certified programs will be listed in the Engineering Management Journal annually.

Program Certification Costs

Each visit will cost $2,000 initially and will vary in the future with cost of travel. Follow-up visits will be $1,000. The institution seeking certification will cover travel expenses of visitors.