

# The Senate of Michigan Technological University

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## PROPOSAL 5-83

### MASTER OF SCIENCE IN OPERATIONS MANAGEMENT

#### BACKGROUND:

Senate Proposal 4-82 which was adopted by the Senate on March 31, 1982 endorsed the development of a Master of Science in Operations Management. Senate Policy 10-70, Procedures for Developing Significant Changes in the Academic Program requires that the Senate Curricular Policy Committee review the proposed program and submit a recommendation to the Senate. The Senate in turn, is required to submit a recommendation to the President. On February 8, 1983, the Graduate Council and the Curricular Policy Committee reviewed the proposals. The Graduate Council unanimously approved the proposals. The Curricular Policy Committee voted unanimously to recommend that the Senate approve the proposed Master of Science in Operations Management.

#### PROPOSAL:

1. Scope. The Master of Science in Operations Management degree program is designed primarily for persons with undergraduate degrees in engineering, natural science, or computer science who desire a broad background in Business Administration and specialized preparation in Operations and Production Management.
2. The Need for Such a Program.
  - a. There is a widespread recognition that traditional MBA programs in the United States fail to produce graduates qualified for production management positions in industry, particularly in the manufacturing sector. (See *Time*, "The Money Chase: Business School Solutions May be a Part of the Problem," May 4, 1981, pp. 58-69). This program would respond to a need which is not adequately being met.
  - b. Operations Management is an area which blends in extremely well with and complements other graduate programs at MTU. Strong support for the development of this program comes from Mechanical Engineering/Engineering Mechanics, from the School of Business and Engineering Administration, from industry recruiters, and from alumni. Graduate students in other programs would probably take some of this program's courses. Approximately two-thirds of this program's courses would be existing MSBA courses.
  - c. Operations Management is an area in which MTU could develop a strong reputation because it is closely linked to the University's traditional areas of strength.
  - d. This program would help the School of Business and Engineering Administration attract and retain highly qualified faculty in Management Science and Production Management. It would also stimulate faculty research, industrial consulting, and

industrial research grants.

3. Admissions Standards.

- a. A Bachelor of Science degree in engineering, natural science, or other appropriate fields.
- b. A satisfactory score on the Graduate Management Admission Test.
- c. An undergraduate grade point average of at least 2.7 on a 4 point scale.
- d. MA150-152, MA250, Calculus and Analytic Geometry, or its equivalent.
- e. CS110, Basic Fortran, or equivalent.
- f. MA341, Introductory Statistics with Calculus, or its equivalent.
- g. BA201-202, Principles of Economics I-II, or its equivalent

4. Curriculum. (*Available by Request from the Senate Office*).

5. Notes on the Curriculum.

- a. Most students in this program would complete it over a two-year period and would work half-time as Graduate Research Assistants under the direction of faculty advisors on research projects funded by industry or government. Some students would work as Graduate Teaching Assistants.
- b. BA401, Managerial Economics, 3 credits, might be substituted for BA501 during the initial year of the program.
- c. BA463, Productions Planning and Control, 4 credits, might be substituted for BA513 during the initial year of the program. During later years, it might become one of several electives.
- d. The title of BA516 will probably be changed to Operations Research Applications and the title of BA517 will probably be changed to Simulations of Business Systems to reflect changes which have already been implemented in these courses and approved by the faculty.
- e. BA594, Operations Management Project, involves project or thesis research work. Masters students are required to complete a project or thesis under the guidance of a faculty advisor and pass an oral examination on the project or thesis conducted by an examination committee appointed for the graduate student by the Graduate Dean. The oral examination committee consists of at least four faculty members, three of whom must be members of the Graduate Faculty and one of whom must be from outside the School of Business and Engineering Administration.
- f. MA503 may be substituted for BA516.
- g. If both ME464 and BA514 are taken, credit will be granted only for one course.
- h. Additional courses from other fields such as Electrical Engineering and Computer Science will be added to this list.

**Replaces 4-82**

**Adopted by Senate: 9 February 1983**

**Approved by Administration: 28 February 1983**

**Approved by BOC: 25 March 1983**