

ASSESSMENT PLAN FOR THE BSMFGE PROGRAM (Spring 2005)

1. Program Educational Objectives.

The specific objectives of the Manufacturing Engineering (MfgE) program, as adopted by its constituencies, are:

- a. A majority of program graduates will be employed in jobs related to design, planning and control, implementation, and improvement of manufacturing processes and systems.
- b. Some of the program graduates will pursue graduate studies in engineering or business.
- c. Program graduates will enjoy professional success because of the program's emphasis on solving real world problems in industries and organizations in the metropolitan area.

2. Program Constituencies.

The constituencies of the Manufacturing Engineering program are:

- a. Program students and alumni,
- b. Prospective employers of program graduates, and
- c. Faculty.

3. Process to Determine and Evaluate Objectives.

The process for determining and evaluating program objectives is shown in Figure B2.1.

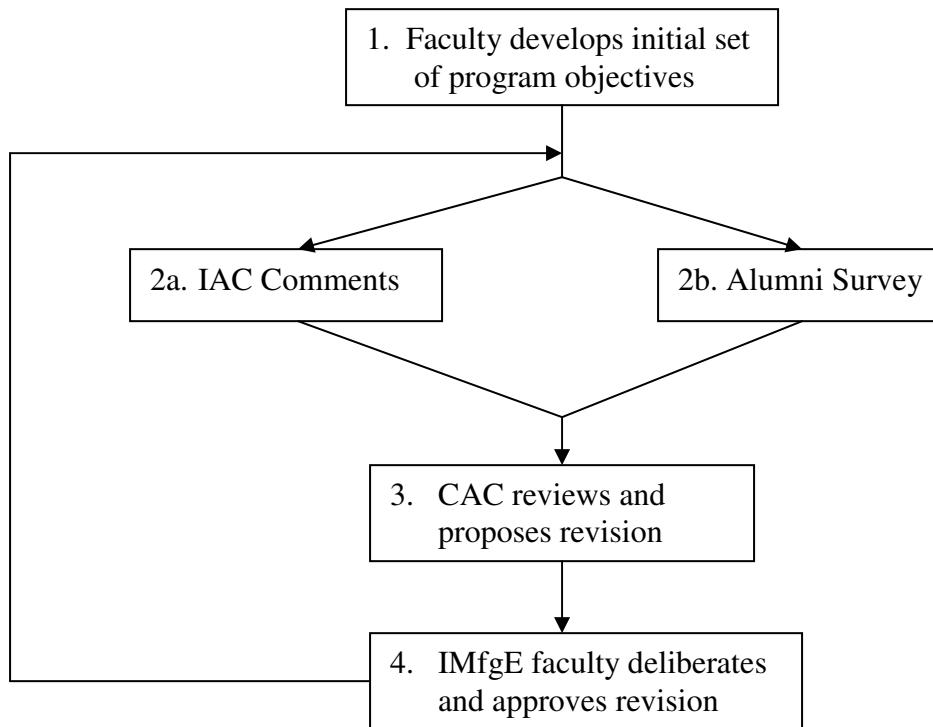


Figure 1. Program Objectives Development-Evaluation Process.

(note: IAC = Industrial Advisory Council and CAC = Curriculum and Assessment Committee). This evaluation process (steps 2 through 4) is formally repeated every year. Program assessment of whether outcomes are being achieved is performed to ensure that:

- ◆ objectives are realistic/appropriate and meet ABET guidelines.
- ◆ any change in university mission is reflected in program objectives.
- ◆ constituencies are able to affect the process.

4. Program Outcomes.

To ensure achievement of Program Objectives, certain outcomes are observed as attributes of program graduates. The desired outcomes that are listed below were developed by the faculty and ratified/modified by the IAC and student body. All the three constituencies are in agreement that achievement of these outcomes should lead to the fulfillment of the objectives of the program. In developing program outcomes, we have been guided by the following explanation of the term provided by ABET: “Outcomes are statements that describe what students are expected to know and are able to do *by the time of graduation.*” (our emphasis with italics).

Following is the list of B.S.Mfg.E. *program outcomes* selected as attributes of its graduates:

- a. Graduates will have knowledge in the core manufacturing engineering areas (probability and statistics, manufacturing methods and materials, manufacturing measurement analysis, and manufacturing systems).
- b. Graduates will have knowledge in broad areas of manufacturing engineering beyond the core areas.
- c. Graduates will have proficiency in developing solutions to problems involving manufacturing processes and manufacturing systems design.
- d. Some of the graduates will have specialized knowledge in selected areas.
- e. Graduates will have the ability to communicate effectively.
- f. Graduates will have the ability to function in teams.
- g. Graduates will have an awareness of the complex environment (involving professional and ethical responsibilities) in which they will practice their profession.
- h. Graduates will have the ability to educate themselves and be prepared for lifelong learning and professional development.
- i. Graduates will have experience in solving real life problems
- j. Graduates will have a broad education necessary to understand the impact of engineering solutions in a societal context.

5. Process for Input/Evaluation/Revision of Program Outcomes.

Figure 2. shows a flow diagram of the process for input, evaluation, and revision of program outcomes.

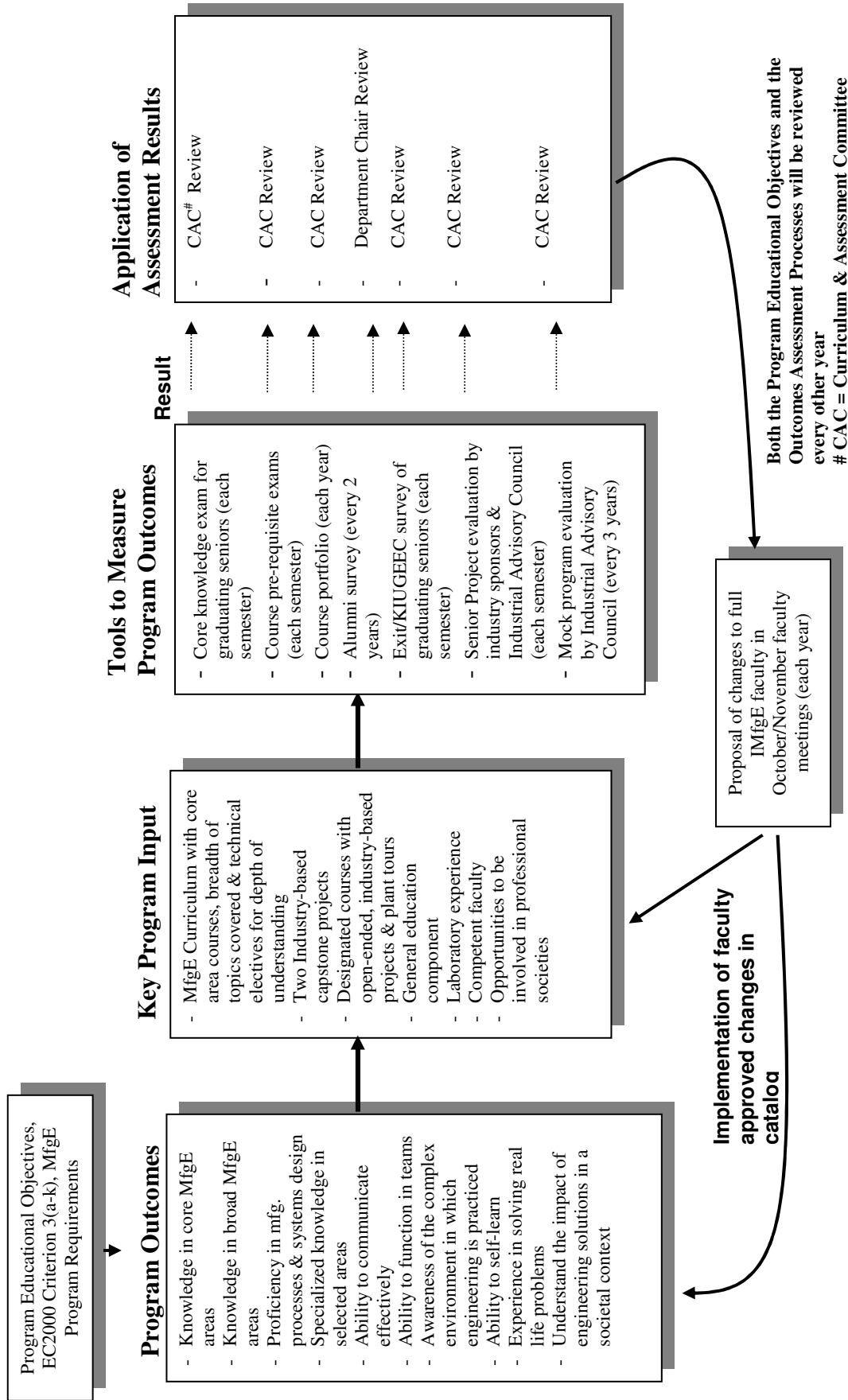


Figure 2. Process for Input, Evaluation, and Revision of Program Outcomes.