REVIEW OF THE M.S. IN TECHNOLOGY

Classification of Instruction Programs (CIP) Code: 15.0612
Industrial Technology/Technician

Review Outcome. The Academic Planning Committee, as a result of this review process, finds the M.S. in Technology to be in <u>Good Standing</u>.

The Academic Planning Committee recognizes that many of the efforts and activities that led to the development of the self-study report were accomplished during the time period coinciding with the COVID-19 pandemic. The committee appreciates the thoughtful and critical self-study report that incorporated ample evidence to support the claims that were made. The self-study process involved multiple stakeholders, including faculty, students, and alumni. The program is designed to prepare students to serve in a variety of advanced management-oriented technical and professional roles in industry. The curriculum is designed to provide a balance between theory and industry best practices, with curricular emphases on the application of mathematics and science, the application of research to improve processes and practices, the development of written and oral communication skills, and preparation for entry into industrial management positions and professional advancement. The curriculum is delivered by faculty members who collaborate to provide foundational and specialized courses.

The committee commends faculty efforts to grow the program's enrollment during the period covering the program review cycle (from 77 students in fall 2015 to 113 in fall 2019 when considering first and second graduate programs). We further commend the program faculty for their commitment to recruiting efforts that have led to an increase in the number of international students from regions including Africa, the Middle East, South Asia, and Central and South America. The committee also commends the program faculty's efforts that have dramatically increased the proportion of women in a historically male-dominated discipline.

The committee commends the faculty's work to revise the curriculum during the period of review based on feedback from multiple stakeholders to ensure that it is representative of current trends and needs within the industry. These efforts included the development of a new Quality Management and Analytics sequence, a new topics course in Project Management, and a proposal for a new issues-based course in Quality Management and Analytics. The committee also notes that the program has discontinued the graduate certificate in Training and Development due to consistently low enrollments. The committee also commends the program faculty for their activities to support a diverse and inclusive climate both through the infusion of diversity, inclusivity, and equity in the curriculum (e.g., TEC 430 Project Management Leadership) and through invited guest speakers from the Diversity Advocacy group on campus, as well as representatives from local industry.

The committee recognizes the faculty members of the program for their scholarly contributions to the M.S. in Technology program. Nearly all tenure track faculty members contributing to the program are or have applied to become members of the graduate faculty. Accordingly, all tenure track faculty members teach graduate courses, supervise and advise graduate students, mentor student independent studies and projects, and serve on thesis committees. Faculty members are active researchers who publish textbooks, in peer-reviewed journals, and present at national and international professional conferences. Many of these scholarly products are co-authored with graduate students.

The committee appreciates the in-depth analysis of aspirational programs. As part of this analysis, the program faculty identified multiple institutions with similar programs that excel in ways to which our program may aspire. The committee also recognizes that faculty developed specific action plans to implement similar initiatives as those to improve the program at Illinois State University.

<u>Follow-up Report</u>.

Comparator Analysis. The committee has included analyses of comparator and aspirational institutions in the self-study report outline to provide faculty members opportunities to consider the niche the program has among its peers and to gather information for program planning. The committee would like the program to revisit the comparator section of the self-study. Although the faculty did provide a table of metrics from comparator institutions, no analysis or interpretation of these metrics were presented. The committee asks that program faculty return to this

analysis to identify the program niche among comparator programs at Illinois public universities and to identify actions faculty could take to enhance the program with respect to the quality indicators faculty have prioritized. Accordingly, the committee asks faculty to revisit their discussions of comparator institutions and to summarize findings of those discussions in a report submitted to the Office of the Provost by May 15, 2022.

Recommendations. The Academic Planning Committee thanks faculty and staff of the M.S. in Technology program for the opportunity to provide input regarding the program at Illinois State University through consideration of the submitted self-study report. The following committee recommendations to be addressed within the next regularly scheduled review cycle are provided in a spirit of collaboration with program faculty and staff. In the next program review self-study report, tentatively due October 1, 2028, the committee asks the program to describe actions taken and results achieved for each recommendation.

Continue to focus on diversity, inclusion, and equity. The committee recommends that the program faculty develop a comprehensive plan to address issues of diversity, inclusion, and equity. We encourage the program to pursue its goals related to further developing a diverse, inclusive, and equitable environment that effectively supports students, faculty, and staff from diverse backgrounds. Although the committee commends the program for recruitment of international faculty and students, the committee urges the program to continue refining and implementing their plans for faculty and student recruitment, including in the plan strategies for increasing enrollment by students from gender, racial, and ethnic groups traditionally underrepresented domestically in the program and discipline. We recommend that that the program faculty examine ways to infuse diversity, equity, and inclusion into the curriculum.

Develop a plan for student success. The committee recommends that the program faculty develop a plan for student success. The plan should be used to increase transparency and communication around "student success" by defining the program's goals for, assessment of, and actions towards supporting students enrolled in the program. The plan may provide an overarching structure for other plans (e.g., retention, curriculum, alumni engagement). The committee notes that class sizes range between 18 and 24 students and recommend that the program faculty consider ways to reduce them. We also note that the program reports having the same number of graduate assistantships despite large enrollment growth, and we support the program's continued efforts to find additional funding support. The committee recommends continued periodic review of the program structure and content to remain current with changes in the field, including examining the comparability of the four options for graduate student research participation.

Continue to upgrade laboratory equipment and facilities. The committee recognizes the importance of specialized laboratory facilities and equipment for supporting faculty and student research and for preparing students for work in industry. The committee supports faculty efforts to periodically upgrade the equipment to best support learning and research and to expose students to the technologies they will most likely encounter in the field after graduation. The committee suggests that the program consider involving its industry partners in efforts to upgrade laboratory equipment and maintain state-of-the art laboratory facilities.

Continue the collaborative work with Milner Library. The committee commends faculty and the subject liaison librarian for their work to integrate library instructional sessions with several courses. Given recent journal cancellations and expected increases in online and hybrid courses, the committee notes that the Department and Library should work to increase awareness of alternative access to resources, such as Interlibrary Loan and I-Share lending, among program faculty and students. In addition, the committee notes that the program can work with the subject liaison librarian to develop a tiered approach for information fluency learning outcomes for the Department, align those outcomes to the curricula, and integrate those outcomes into the student learning outcomes assessment plan for the program.

Continue implementing and refining the student learning outcomes assessment plan. The committee commends faculty for their work to implement the assessment plan during the current review cycle. As part of this work, faculty have considered the course/formative experiences and comprehensive/summative experiences that are provided to support and assess student learning throughout the program; have incorporated multiple indirect measures that are used to gather stakeholder feedback; and have used this information to guide the program changes that have been made. The committee notes that such work can assist in identifying areas for improvement by providing a more holistic perspective on student learning.