REVIEW OF THE B.S. IN INDUSTRIAL 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 B.S. in Industrial Technology to be in Good Standing.

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, critical and well-grounded self-study report. The self-study process involved multiple stakeholders, including faculty, students, and alumni. The Industrial Technology program originally contained several sequences which have since been elevated to stand-alone programs. The self-study report that was reviewed focused on the remaining Computer Systems Technology sequence. The curriculum in this sequence focuses on preparing professionals for careers related to the development of computer systems and their management. Courses provide a diverse range of technical and professional opportunities. This can lead to careers related to network configuration and operating system administration. The curriculum is delivered by faculty members who collaborate to provide foundational courses, specialized courses, and field experiences, and student teaching experiences.

The committee notes that the program's enrollment target has stayed relatively steady during the period of review, however enrollments have slowly declined (from 87 in 2015, to 60 in 2020). We recognize that the recent approval of the elevation of the Computer Systems Technology sequence to a stand-alone major is intended to reverse this enrollment trend. We recognize that the program faculty actively participate in recruiting at University events (e.g., open houses, Redbird Days, Presidential and University Scholar Days), individual tours of facilities during campus visits, student ambassadors, and through an annual newsletter that is distributed to high schools and community colleges. The committee commends the program faculty for their recruiting activities that have resulted in consistently high levels of enrollments by students from traditionally underrepresented groups (ranging between 27 and 45 percent, consistently above both the Department and College averages). We also note the program's efforts towards securing student scholarships as part of fundraising through private and corporate donations also has aided in the Department's recruitment efforts during the current review cycle.

The committee recognizes the program faculty's commitment to activities that support student success. We commend the program on its ability to continue to limit enrollments in many of its courses, which is in keeping with the University's commitment to fostering a small-college atmosphere with large-university opportunities. The committee commends the program for the creative and varied co-curricular options it provides its students to meet their education and career goals. These include a wide variety of student organizations, many of which provide students opportunities to be actively engaged with the community and local industry (e.g., the student Institute of Electrical and Electronics Engineers). We commend the program faculty and staff for supporting students by providing high availability and access to specialized facilities and equipment that is central to the discipline. We appreciate the Department's commitment to monitoring its undergraduate academic advising throughout the current review cycle and commend the program advisors for their efforts to support students transferring both into and out of the major. The committee notes the fall-to-fall retention rates [with fall-to-fall retention for first-time-in-college (FTIC) students ranging between 50.0 and 72.7 percent and for external transfer students between 55.6 and 75.0 percent] are generally below the Department and University-wide rates overall (across the Department of Technology, fall-to-fall retention for FTIC students range between 57.0 and 73.1 percent and for external transfer students between 75.5 and 90.9 percent over the same period of review). The committee notes that since 2016, 100 percent of students complete the degree in five years or less. We also note that the employment data indicate strong outcomes for program graduates.

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 increasing the number of electives and decreasing some of the required courses and developing the proposal to elevate the sequence to a stand-alone major. We further commend the program faculty for their continued accreditation by the Association of Technology, Management, and Applied Engineering (ATMAE) and wish them well for their reaccreditation efforts in 2022.

The committee notes the faculty members of the program for their scholarly contributions to the B.S. in Industrial Technology program. Faculty members are active researchers who publish in peer-reviewed journals and present at national conferences.

Follow-up Report.

Comparator and Aspirational Analyses. 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 and aspirational sections 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 institutions and to identify actions faculty could take to enhance the program with respect to the quality indicators faculty has prioritized, especially as the program moves from sequence to major. Although aspirational initiatives were discussed, the committee determined that the aspirational analysis was underdeveloped. The committee asks the faculty to address this through an expanded analysis of aspirational programs that could help develop strategies for addressing the initiatives faculty has identified. Accordingly, the committee asks faculty to revisit their discussions of comparator and aspirational 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 B.S. in Industrial Technology program for the opportunity to provide input regarding the program at Illinois State University through consideration of the submitted self-study report. Typically, committee recommendations would be addressed within the next regularly scheduled review cycle. Given the transition of the program to a new stand-alone major in Computer Systems Technology, the following recommendations are provided in a spirit of collaboration with program faculty and staff to consider as the program is transitioned as part of the three-year progress report for the new program.

Continue to focus on diversity, inclusion, and equity. As the program transitions to a stand-alone Computer Systems Technology program, the committee recommends that the program faculty develop a comprehensive plan to address issues of diversity, inclusion, and equity. Although the program is commended for their activities that have resulted in high levels of enrollment of students from traditionally underrepresented groups, the program has consistently had relatively few women enrolled (ranging between 5 and 10 percent, consistently below department and college averages). 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. 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 in the program and discipline. We recommend that that the program faculty examine ways to infuse diversity, equity, and inclusion issues into the curriculum. We encourage the program faculty to look to their comparator and aspirational institutions for indicators of enrollment growth impacts on program quality.

Develop a plan for maintaining and increasing student success and retention. The committee recommends that the program faculty develop a plan for maintaining and increasing student success. The plan should be used to increase transparency and communication around maintaining and increasing 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 recognizes substantial work by former and current faculty members to review and update the program and its curriculum. The committee recommends continued periodic review of the program structure and content to remain current with changes in the field and to maintain program retention and graduation rates (including the percentage of graduates completing the program within four years). The committee recommends that the program continue monitoring student retention, particularly of students from traditionally underrepresented groups. The committee encourages the program to continue developing opportunities for student scholarship and creative activities. The committee suggests that faculty members investigate student interest and participation in the Honors program to ensure that students desiring to complete the program with honors have sufficient opportunities to do so.

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 positions. 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 develop and begin implementing the assessment plan during the current review cycle. As part of this work, faculty have considered the incorporation of additional direct measures of student learning to accompany the multiple indirect measures that are used to gather stakeholder feedback. The committee notes that such work can assist in identifying areas for improvement by providing a more holistic perspective on student learning.

Design and implement a system for tracking alumni. The committee concurs with faculty in its plan to design and implement a system for tracking program alumni and then using the system to enhance alumni networking. Faculty might use information gleaned from its aspirational program analyses to help guide development of the plan. Faculty might also consult faculty from other academic programs in the Department regarding strategies used by those programs for alumni networking.