

DEPARTMENT OF TECHNOLOGY

PROGRAM ASSESSMENT PLAN

**B.S. DEGREE IN ENGINEERING TECHNOLOGY (FORMERLY INDUSTRIAL
TECHNOLOGY: INTEGRATED MANUFACTURING SYSTEMS)**



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Table of Contents

| | |
|--------------------------------------|---|
| Learning Outcomes Assessment | 3 |
| Program Goals and Plan of Work | 6 |

Appendices

| | |
|---|----|
| Appendix A – Example of Employer Follow-up Survey..... | 11 |
| Appendix B – Example of Senior Exit Survey | 13 |
| Appendix C – Example of Alumni Learning Outcomes Survey | 18 |
| Appendix D – Annual Assessment & Reporting Calendar..... | 20 |

Department of Technology Program Assessment Plan B.S. Degree: Engineering Technology

This Engineering Technology degree Program Assessment Plan includes a description of learning outcomes, assessment measures, feedback and continuous improvement mechanisms, and record keeping procedures that guide the Engineering Technology program in continuous improvement. There are two components to the Engineering Technology program assessment. (1) Learning Outcomes Assessment and (2) Program Goals and Plan of Work. Annual assessment data is posted on the Department of Technology website: www.tec.illinoisstate.edu.

Learning Outcomes Assessment

The learning outcomes report, completed each year, is an aggregate summary of student progress toward meeting identified learning outcomes. The resulting data is reported in a dashboard format (see following page for an example of learning outcomes dashboard), which includes assessment data and a plan for improvement, as necessary. The learning outcomes for the program are reviewed each year for validation by the Engineering Technology program advisory board. Multiple data points are used to assess learning outcomes, as follows:

1. An **Employer Survey** seeks data on how well graduates performed in terms of intended learning outcomes. These surveys are conducted on a three-year cycle. (*Appendix A* presents an example of the employer follow-up survey).
2. The **Senior Exit Survey** solicits both quantitative and qualitative feedback about the extent to which learning outcomes were achieved. An example of the Senior Exit Survey is presented in *Appendix B*.
3. The University Assessment Services conducts the annual **Alumni Survey** and supplies this assessment data to the department. This survey includes questions on the intended learning outcomes for the program shown in *Appendix C*.
4. To assess learning outcomes, the Engineering Technology program faculty review an assessment exam given to seniors in the program.

Assessment data on learning outcomes receives oversight in the following ways. Specific learning outcome assessment data initially go to the Program Coordinator who is responsible for (a) documenting and reporting the results, (b) evaluating if the results conform to performance indicators, and (c) deciding, in conjunction with program faculty and advisory committee as appropriate, whatever corrective action needs to be taken. Corrective actions are documented in the learning outcomes assessment dashboard and filed on the Faculty Server. An annual assessment calendar is used to coordinate assessment and feedback events (See *Appendix E*).

Engineering Technology Learning Outcomes

1. Interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. Perform various non-destructive and destructive materials testing procedures.
2. Analyze and apply basic electricity and electronic principles within the various engineering environments and applications such as industrial robots, controls, and other such systems.
3. Monitor and control manufacturing processes or other industrial systems.
Select appropriate manufacturing processes for product production applications such as forming, molding, separating, conditioning, joining, and finishing.
4. Utilize 2-D and 3-D computer-aided design systems to create drawings and models for products, machines, jigs, fixtures, and other mechanical devices used in engineering environments.
5. Read and interpret engineering documentation such as blue prints, technical drawings and diagrams, production plans, tooling plans, quality plans, and safety plans.

Engineering Technology Learning Outcome Assessment Report 2010-2011

Assessment Methods* and Outcome

| Learning Outcome | Related Courses | * Assessment Exam Avg by Category | Employer Survey (2009) n=7 | Senior Survey (2011) n=3 | Alumni Survey (2011) n=4 | Response/Action (2010-2011) | Previous Year Progress (from 2009-2010 actions) |
|--|-------------------------|-----------------------------------|----------------------------|--------------------------|--------------------------|-----------------------------|---|
| 1 Interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. Perform various non-destructive and destructive materials testing procedures. | 130, 285, 292 | 89.33% | 4.0 | 4.3 | 4.0 | | |
| 2 Analyze and apply basic electricity and electronic principles within the various engineering environments and applications such as industrial robots, controls, and other such systems. | 111, 240, 263 | 84.92% | 3.1 | 4.3 | 3.8 | | |
| 3 Monitor and control manufacturing processes in other industrial systems. | 130, 233, 285, 240, 263 | 83.29% | 4.4 | 4.3 | 3.8 | | |
| 4 Select appropriate manufacturing processes for product production applications such as forming, molding, separating, conditioning, joining, and finishing. | 130, 233, 285 | 81.67% | 4.5 | 4.7 | 4.0 | | |
| 5 Utilize 2-D and 3-D computer-aided design systems to create drawings and models for products, machines, jigs, fixtures, and other mechanical devices used in engineering environments. | 116, 216, 292 | 87.31% | 3.9 | 4.7 | 3.8 | | |
| 6 Read and interpret engineering documentation such as blueprints, technical drawings and diagrams, production plans, tooling plans, quality plans, and safety plans. | 116, 230, 216, 292 | 87.31% | 4.4 | 4.3 | 3.5 | | |

*Benchmarks:

- 1 *Performance criteria: At least 75% average in each category indicates good achievement of the learning outcome. The mean for the exam was
- 2 Survey data is 3.5/5.0 indicates well prepared.

Action Required
Monitor for now

Program Goals and Plan of Work

The Engineering Technology *Program Goals and Plan of Work*, consists of (a) the program mission, (b) program goals, (c) goal alignment with department, college, and university goals, (d) strategies for attaining goals, (e) an annual plan of work, and (f) a report assessing accomplishments (See an example of the *Program Goals and Plan of Work* document on the following page). An assessment of the *Program Goals and Plan of Work* is submitted to the Department of Technology Chair annually at the beginning of the academic year, after developing a plan of work, and to report on work completed from the previous academic year. Follow-up on the assessment of program outcomes data flows first to the Chairperson or Assistant Chairperson who is responsible for documenting and reporting the results in the Department of Technology Annual Assessment Report. As appropriate, results may be further disseminated to the faculty at large, and/or Advisory Committees for further action aimed at program improvement.

Engineering Technology Program Goals

1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop the technical and managerial knowledge, skills, and attitudes that are foundational to success as ET professionals.
2. Recruit and graduate a diverse group of individuals to support companies and organizations that will employ ET professionals in Illinois and throughout the United States.
3. Provide opportunities for students to interface with ET professionals.
4. Provide service to companies and organizations that employ ET graduates through applied research, consulting/workshops, and participation in professional organizations.
5. Maintain industry and ET alumni relationships in support of the program.

Program Goals and Plan of Work (2010-2011)

Engineering Technology Program

The mission of the program is to prepare technically-oriented managerial professionals and leaders for business, industry, government, and education by articulating and integrating student experiences and core competencies in engineering technology.

| <i>ET Goals</i> | <i>Goal Alignment</i> | <i>Strategies</i> | <i>Plan of Work</i> | <i>Previous Year Outcomes</i> |
|---|---|---|---|---|
| <p>1. Provide students with high quality educational experiences by featuring a modern, up-to-date curriculum that will develop the technical and managerial knowledge, skills, and attitudes that are foundational to success as ET professionals.</p> | <p>ISU Educating Illinois Goal #1,2</p> <p>CAST Strategic Plan Goal # 1, 5</p> <p>TEC Department Goal 1</p> | <p>a. Maintain strong industry input to program curriculum decision making.</p> <p>b. Maintain high quality curriculum and instruction.</p> <p>c. Maintain modern ET labs.</p> <p>d. Maintain highly qualified faculty.</p> | <p>a. Assemble and conduct a least one advisory board meeting in the 2010/2011 school year.</p> <p>b. Investigate pursuing a stand-alone ET major.</p> <p>c. Measure student performance for outcomes assessment and revise instruction as needed.</p> <p>d. Attend professional development events, including ASEE regional and national conferences, ATMAE national conference, and industry trade shows.</p> <p>e. Update a 5-year equipment and facility plan and seek funding to modernize software and equipment.</p> <p>f. Explore possibility of teaching the TEC392 course using the Utah model for industry projects.</p> | <p>a. Conducted an advisory board meeting on March 25, 2011.</p> <p>b. Proposal to become a stand-alone major has been approved through the College Curriculum Committee. The University Curriculum Committee will act on the proposal during the Fall 2011 semester.</p> <p>c. Assessment was completed.</p> <p>d. Dr. Reifschneider presented at the ASEE conference in June 2011, Dr. Devine presented at the ASEE/EDGD conference in October, 2011. Dr. Devine attended the PLM World Conference. Dr. Devine also completed a summer-long workshop on how to design and develop a quality hybrid course.</p> <p>e. Equipment plan development is ongoing and was an agenda item at the March 25 Advisory Board meeting. Dr. Reifschneider obtained funding from SPE to partially fund the purchase of a resin dryer. New software was purchased to upgrade the CMM used by ET students.</p> <p>f. Dr. Reifschneider solicited feedback from alumni of companies who may be interested in participating in a</p> |

| | | | | |
|---|--|---|---|---|
| | | | | corporate sponsored capstone course. |
| 2. Recruit and graduate a diverse group of individuals to support companies and organizations that will employ ET professionals in Illinois and throughout the United States. | ISU <i>Educating Illinois</i> Goal # 1,2 CAST Strategic Plan Goal # 1, 6 TEC Department Goal 1 | a. Maintain sustainable enrollment in the ET Program at ISU. b. Promote the program to diverse audiences of potential students. c. Promote industry-sponsored scholarships to existing and potential students. | a. Update the department Website. b. Update community college articulations. c. Open dialog for high school articulations. d. Post appropriate scholarship opportunities and support student efforts for scholarship awards. e. Pursue opportunities to interact with K-12 students and teachers, including the Chicago pipeline project and the Expand Your Horizons event at ISU. | a. The ET portion of the website was updated. Dr. Reifschneider coordinated a significant upgrade to the look and function of the ET website. b. Dr. Stier updated several articulation agreements. c. Dr. Devine participated in a state-wide P-20 manufacturing curriculum project in which articulation was a topic of discussion. d. One student was awarded the AFE scholarship in the fall semester. The Hydro-Gear, SME, and Weede, and McCarthy scholarships were awarded. e. The IDEA Competition was hosted at ISU. Dr. Devine was Co-PI for a grant in which engineering graphics software was used to teach mathematics to K-12 students. Dr. Devine was Co-PI of a research project that involved teaching robot programming principles to 2 nd and 3 rd grade students. Dr. Devine hosted a group of forty 2 nd grade students in the CAT-IML. |
| 3. Provide opportunities for students to interface with ET professionals. | ISU <i>Educating Illinois</i> Goal # 1, 2 CAST Strategic Plan Goal # 1, 6 TEC Dept. Goal 1,3 | a. Facilitate events that promote student and faculty interaction with industry. b. Promote internship opportunities for ET students. c. Create and maintain relationships with companies and personnel that employ ET professionals. | a. Actively promote involvement in student organizations. b. Promote student attendance at industry trade shows. c. Organize field trips to applicable companies. d. Invite ET professionals to visit classes. e. Maintain contact with potential employers. f. Encourage students to pursue and | a. Dr. Reifschneider took students the Society of Plastics Engineers Thermoforming Conference. b. Trade show dates and locations were announced in several classes. c. Dr. Devine took students to tour Mechanical Devices Company. Dr. Reifschneider took students to tour Caterpillar and Illinois Valley Plastics. |

| | | | | |
|---|--|--|--|---|
| | | | secure internships. | <ul style="list-style-type: none"> d. Representatives from Caterpillar, Kennametal, Renishaw, and SCS International were guest speakers in ET classes. e. The coordinator and ET faculty met with several employers. The coordinator sent out email announcements to the ET students from employers for internships and full-time employment. f. Two ET students completed formal internships during the summer. A proposal to require 400 hours of industry-related work experience as a prerequisite to TEC392 was approved by the CCC and is will be reviewed by the UCC during the fall 2011 semester. |
| 4. Provide service to companies and organizations that employ ET graduates through applied research, consulting/workshops, and participation in professional organizations. | <p>ISU <i>Educating Illinois</i> Goal # 2,4</p> <p>CAST Strategic Plan Goal # 3, 4</p> <p>TEC Dept. Goal 2.3</p> | <ul style="list-style-type: none"> a. Tenured or tenure-track faculty will engage in research and technology transfer activities that supports the industry. b. Tenured or tenure-track faculty members will maintain participation and leadership in relevant organizations, boards, or committees. c. Promote student organization participation in industry or community service activities. | <ul style="list-style-type: none"> a. Promote graduate assistantships to assist with faculty research. b. Conduct scholarly activities such as publishing peer reviewed manuscripts and completing research. c. Provide leadership in professional organizations. | <ul style="list-style-type: none"> a. A graduate assistant is assisting two faculty members this year. b. Dr. Reifschneider published peer-reviewed papers at SPE and ASEE. Dr. Devine published in a peer-reviewed proceeding for ASEE/EDGD. c. Dr. Reifschneider serves on the board of directors of the Plastics Environmental Division of the Society of Plastics Engineers. Dr. Devine serves on the board of directors of the ASEE/Engineering Design Graphics Division. |
| 5. Maintain industry and ET alumni relationships in support of the program. | <p>ISU <i>Educating Illinois</i> Goal # 3</p> <p>CAST Strategic Plan Goal # 4,6</p> <p>TEC Department</p> | <ul style="list-style-type: none"> a. Maintain information distribution to alums through the department newsletter and website. b. Encourage participation of ET alumni in homecoming events. | <ul style="list-style-type: none"> a. Contribute information to the Department Blog and ET website. b. Develop active participation with related companies. c. Develop four funding proposals to present to potential ET donors. | <ul style="list-style-type: none"> a. Information with regard to the request to become a stand-alone major and December/May commencement activities were published on the blog. The department website was updated. b. Companies are represented on |

| | | | | |
|--|----------|---|--|--|
| | Goal 2,3 | <ul style="list-style-type: none"> c. Establish relationships with companies who employ ET professionals. d. Provide avenues for internship and graduate recruitment. | | <p>the ET advisory board. Faculty members maintain regular contact with many companies throughout the area.</p> <ul style="list-style-type: none"> c. Two funding proposals have been developed and a third was discussed during an advisory board meeting. |
|--|----------|---|--|--|

Example

Appendix A: Example of Employer Survey

ISU Engineering Technology Employer Survey

Page 1

Engineering Technology Employer Survey

As part of our continuous quality improvement process and accreditation requirements, we would like to know your perceptions on how well prepared our graduates are to apply Engineering Technology knowledge, skills, and attitudes on the job.

If you are not the appropriate person to complete this survey, would you please forward to the individual in your firm who supervises or is knowledgeable about the performance of the ISU graduate.

This brief survey has two parts: (a) ratings of 6 individual competencies that graduates should demonstrate, and (b) an open ended section for your comments and suggestions. **Please complete a separate survey for each ISU Engineering Technology graduate** who has worked for your firm for ten (10) years or less. All responses are completely confidential. Anticipated time to complete the survey is less than 10 minutes.

Thank you very much for your feedback on the quality of our Engineering Technology graduates. Your input is very important to our program success!

1. How long has the (or was the) ISU Integrated Manufacturing Systems graduate been employed by your firm?
 - Less than 1 year
 - 2 years
 - 3 years
 - 4 years
 - 5-10 years

Instructions for questions 2 to 7:

In the left-hand column is a listing of competencies (knowledge, skills, and attitudes) that should be demonstrated by graduates of the Integrated Manufacturing Systems program in the Department of Technology at Illinois State University (ISU). For each of the competencies, please indicate the level of preparation as:

Excellent - Good - Neutral - Fair - Poor - Not Applicable.

2. Interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. Perform various non-destructive and destructive materials testing procedures.

Excellent Good Neutral Fair Poor Not
Applicable

Materials Testing

3. Analyze and apply basic electricity and electronic principles within the various manufacturing environments and applications such as industrial robots, controls, and other such systems.

| | | | | | | |
|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Excellent | Good | Neutral | Fair | Poor | Not Applicable |
| Electronics | <input type="radio"/> |

4. Monitor and control manufacturing processes or other industrial systems.

| | | | | | | |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Excellent | Good | Neutral | Fair | Poor | Not Applicable |
| Process Control | <input type="radio"/> |

5. Select appropriate manufacturing processes for product production applications such as forming, molding, separating, conditioning, joining, and finishing.

| | | | | | | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Excellent | Good | Neutral | Fair | Poor | Not Applicable |
| Process selection | <input type="radio"/> |

6. Utilize 2-D and 3-D computer-aided design systems to create drawings and models for products, machines, jigs, fixtures, and other mechanical devices used in manufacturing environments.

| | | | | | | |
|-----|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Excellent | Good | Neutral | Fair | Poor | Not Applicable |
| CAD | <input type="radio"/> |

7. Read and interpret manufacturing documentation such as blue prints, technical drawings and diagrams, production plans, tooling plans, quality plans, and safety plans.

| | | | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Excellent | Good | Neutral | Fair | Poor | Not Applicable |
| Plan Interpretation | <input type="radio"/> |

8. Additional comments, clarifications or suggestions for the ISU Integrated Manufacturing Systems program:

Appendix B: Example of Senior Exit Survey

Department of Technology Senior Survey (ET)

Page 1

Department of Technology Senior Exit Survey

As part of our continuous quality improvement process, we would like to know your perception of how well we have performed as a department and as an academic degree program.

This brief survey has two parts: (a) ratings of general perceptions about the department and its quality, and (b) ratings on how well you achieved the intended learning outcomes for your major. Anticipated time to complete the survey is about 15 minutes.

Thank you very much for your feedback on the quality of the Department of Technology and its programs of study!

Instructions for questions 1 to 17:

This section includes ratings of your perception about the Department of Technology and its quality.

- 1. Faculty were helpful when I needed assistance.*

| | | | | | |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Faculty | <input type="radio"/> |

- 2. Overall, the quality of instruction was excellent in TEC courses.*

| | | | | | |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Quality | <input type="radio"/> |

- 3. I was treated fairly in my dealings with faculty.*

| | | | | | |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Fairness | <input type="radio"/> |

- 4. Faculty were experts in their subject matter areas.*

| | | | | | |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Expertise | <input type="radio"/> |

- 5. The department's computer resources met my needs.*

| | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Computers | <input type="radio"/> | |
| 6. Overall, I was satisfied with the quality of laboratory equipment.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Lab Equipment | <input type="radio"/> | |
| 7. Lab hours provided access to equipment to complete assignments. | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Lab Access | <input type="radio"/> | |
| 8. I was able to get my into TEC courses in a timely manner.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Course Schedule | <input type="radio"/> | |
| 9. TEC Advisement Office responded to my inquiries in a timely manner.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Timely Advisement | <input type="radio"/> | |
| 10. My TEC advisor was knowledgeable of my academic plan.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | |
| Advisement Expertise | <input type="radio"/> | |
| 11. My internship was a valuable part of my education.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Did not participate in an internship |
| Internship | <input type="radio"/> |
| 12. TEC department student organizations were a valuable part of my education.* | | | | | | |
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Did not participate in student organization |
| TEC Student Organizations | <input type="radio"/> |

13. My TEC major greatly expanded my career options.*

| | | | | | |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Career Options | <input type="radio"/> |

14. The content of my TEC courses was state-of-the-art.*

| | | | | | |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Course Content | <input type="radio"/> |

15. Overall, I greatly increased my knowledge and skills as a result of my TEC major.*

| | | | | | |
|-----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Personal Skills | <input type="radio"/> |

16. I would recommend TEC to a good friend or family member.*

| | | | | | |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Recommendation | <input type="radio"/> |

17. Would you care to share any additional comments about your experiences with the Dept of Technology?

Instructions for questions 18 to 27:

This section includes ratings on how well you achieved the intended learning outcomes for your major, as well as questions about your job search.

18. I am able to interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. I am able to Perform various non-destructive and destructive materials testing procedures.*

| | | | | | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Materials Testing | <input type="radio"/> |

19. I am able to analyze and apply basic electricity and electronic principles within the various manufacturing environments and applications such as industrial robots, controls, and other such systems.*

| | | | | | |
|--|----------------|-------|---------|----------|-------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|----------------|-------|---------|----------|-------------------|

Electronics

20. I am able to monitor and control manufacturing processes or other industrial systems.*

Strongly Agree Agree Neutral Disagree Strongly Disagree
 Process Control

21. I am able to select appropriate manufacturing processes for product production applications such as forming, molding, separating, conditioning, joining, and finishing.*

Strongly Agree Agree Neutral Disagree Strongly Disagree
 Process selection

22. I am able to utilize 2-D and 3-D computer-aided design systems to create drawings and models for products, machines, jigs, fixtures, and other mechanical devices used in manufacturing environments.*

Strongly Agree Agree Neutral Disagree Strongly Disagree
 CAD

23. I am able to read and interpret manufacturing documentation such as blue prints, technical drawings and diagrams, production plans, tooling plans, quality plans, and safety plans.*

Strongly Agree Agree Neutral Disagree Strongly Disagree
 Plan Interpretation

24. Please provide any feedback about the instruction and your learning related to Engineering Technology/Manufacturing Systems.

25. Who or what influenced you in deciding to pursue the TEC program at ISU?*

Influences

26. At what stage are you in finding a position in your major field?

Accepted an offer Have tentative offer Interviewing Have not started searching
 Job Search

27. If you are actively searching for a job or have landed a position, what has been most helpful so far: (you may answer more than one)

| | ISU Career Services | ISU Career Fairs | eRecruiting | TEC Faculty Employer Contacts | My Own Searches (Websites, personal contacts, etc.) |
|--------------------|---------------------------|--------------------------|--------------------------|--|---|
| Help in job search | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

28. If you have secured a permanent position, please provide the name of the employer:

Name of employer

Appendix C: Example of Alumni Learning Outcomes Survey

2011 Integrated Manufacturing Systems

Page 1

1. Please indicate how well the IMS sequence prepared you to perform each skill.

| | Well above average | Above average | Average | Below average | Well below average | N/A |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Interpret and apply basic concepts of materials science such as strength of materials, structural properties, conductivity, and mechanical properties. | <input type="radio"/> |
| Perform various non-destructive and destructive materials testing procedures. | <input type="radio"/> |
| Analyze and apply basic electricity and electronic principles within the various manufacturing environments and applications such as industrial robots, controls, and other such systems. | <input type="radio"/> |
| Monitor and control manufacturing processes or other industrial systems. | <input type="radio"/> |

Page 2

2. Please indicate how well the IMS sequence prepared you to perform each skill.

| | Well above average | Above average | Average | Below average | Well below average | N/A |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Select appropriate manufacturing processes for product production applications such as forming, molding, separating, conditioning, joining, and finishing. | <input type="radio"/> |
| Utilize 2-D and 3-D computer-aided design systems to create drawings and models for products, machines, jigs, fixtures, and other | <input type="radio"/> |

mechanical devices used in manufacturing environments.

Read and interpret manufacturing documentation such as blueprints, technical drawings and diagrams, production plans, tooling plans, quality plans, and safety plans.



Appendix D: Annual Assessment & Reporting Calendar

| Date | Activity | Accountable |
|-----------------------------------|--|------------------------|
| As appropriate by course schedule | IDEA student ratings of instruction (November and April). | Secretary |
| As appropriate | Share assessment data with program and/or program advisory committees | Program Coordinator |
| As appropriate | Faculty Retreat - Review annual assessment data and establish improvement priorities. | Chair |
| April | Conduct TEC Senior Student Exit Survey in each capstone course. | Advisor |
| April | Organize follow-up survey of employers (minimum 3-year cycle) | Asst Chair & Secretary |
| April | Mail pre-survey letter to alumni. | Secretary |
| June | TEC Senior Student Exit Survey results and Employer Survey results distributed to faculty. | Advisor, Asst. Chair |
| July 30 | Alumni data distributed to coordinators | Asst. Chair |
| August | Coordinators meeting to discuss new assessment data and review assessment process | Asst. Chair |
| September 15 | Program Coordinators submit the annual <i>Learning Outcomes Report</i> | Program Coordinator |
| September 15 | Program Coordinators submit the annual <i>Program Goals Report and Plan of Work</i> | Program Coordinator |
| September/October | Organize and conduct scheduled Peer Teaching Observations. | Asst. Chair |
| November 1 | Submit annual TEC Assessment Report to the University Assessment Services (UAS) | Asst. Chair |
| December 1 | Department of Technology Annual Report and Consolidated Annual Budget Report | Chair |