# Industrial Technology

## Minor - Industrial Technology

The Department of Agricultural and Biosystems Engineering also offers a minor in industrial technology which may be earned by completing a minimum of 18 credits of technology systems management courses, which includes:

| | | |
|---|---|---|
| TSM 115 | Solving Technology Problems | 3 |
| TSM 210 | Fundamentals of Technology | 3 |
| 12 credits from a departmentally approved list | | 12 |
| Total Credits | | 18 |

For the undergraduate curriculum in agricultural systems technology leading to the degree of bachelor of science or for the undergraduate curriculum in industrial technology leading to the degree of bachelor of science.

The department also offers an undergraduate curricula and courses in agricultural engineering, biological systems engineering.

## Curriculum in Industrial Technology

Administered by the Department of Agricultural and Biosystems Engineering. An undergraduate certificate in occupational safety is available; the requirements appear under Technology Systems Management courses and programs. A minor in Industrial Technology is available; the requirements appear under Technology Systems Management courses and programs.

Students majoring in Industrial Technology choose between two options: Manufacturing or Occupational Safety.

**Total Degree Requirement: 120 cr.**

Only 65 cr. from a two-year institution may apply which may include up to 16 technical cr.; 9 P-NP cr. of free electives; 2.00 minimum GPA.

**Communications Proficiency:**

6 cr. of English composition with a C or better and 3 cr. of speech fundamentals with a C or better.

**Communication/Library: 13 cr.**

| | | |
|---|---|---|
| ENGL 150 | Critical Thinking and Communication | 3 |
| ENGL 250 | Written, Oral, Visual, and Electronic Composition | 3 |
| One of the following: | | 3 |
| ENGL 302 | Business Communication | |
| ENGL 309 | Report and Proposal Writing | |
| ENGL 314 | Technical Communication | |
| AGEDS 327 | Advanced Communications for Agriculture and Life Sciences | |
| One of the following: | | 3 |
| SP CM 212 | Fundamentals of Public Speaking | |
| COMST 214 | Professional Communication | |
| AGEDS 311 | Presentation and Sales Strategies for Agricultural Audiences | |
| LIB 160 | Information Literacy | 1 |
| Total Credits | | 13 |

**Mathematical, Physical, and Life Sciences: 26 cr.**

| | | |
|---|---|---|
| MATH 142 | Trigonometry and Analytic Geometry | 3 |
| MATH 160 | Survey of Calculus | 4 |
| STAT 104 | Introduction to Statistics | 3 |
| PHYS 111 | General Physics | 5 |
| CHEM 163 | College Chemistry | 4 |
| CHEM 163L | Laboratory in College Chemistry | 1 |
| BIOL 101 | Introductory Biology | 3 |
| or BIOL 211 | Principles of Biology I | |
| Second Biology course requirement by Option: | | 3 |
| Manufacturing option | | |
| 3 credits from approved College of Agriculture and Life Science list | | |
| Occupational Safety option | | |

| | | |
|---|---|---|
| BIOL 255 | Fundamentals of Human Anatomy | |
| Total Credits | | 26 |

**Business, Humanities, Ethics, and Social Sciences: 18 cr.**

| | | |
|---|---|---|
| ACCT 284 | Financial Accounting | 3 |
| ECON 101 | Principles of Microeconomics | 3 |
| Ethics | | 3 |
| TSM 370 | Occupational Safety | |
| Humanities from College of Agriculture and Life Science list | | 3 |
| International Perspectives from University list | | 3 |
| U.S. Diversity from University list | | 3 |
| Total Credits | | 18 |

**Technical Core: 30 cr.**

| | | |
|---|---|---|
| TSM 110 | Introduction to Technology | 1 |
| TSM 111 | Experiencing Technology | 1 |
| TSM 115 | Solving Technology Problems | 3 |
| TSM 116 | Introduction to Design in Technology | 3 |
| TSM 201 | Preparing for Workplace Seminar | 1 |
| TSM 210 | Fundamentals of Technology | 3 |
| TSM 270 | Principles of Injury Prevention | 3 |
| TSM 310 | Total Quality Improvement | 3 |
| TSM 363 | Electric Power and Electronics for Agriculture and Industry | 4 |
| TSM 397 | Internship in Technology | R |
| TSM 399 | Work Experience in Technology | 2 |
| TSM 415 | Technology Capstone I | 1 |
| TSM 416 | Technology Capstone II | 5 |
| Total Credits | | 30 |

**No more than 4 cr. of TSM 397 may count toward graduation.**

**Manufacturing Option: 33 cr.**

| | | |
|---|---|---|
| TSM 216 | Advanced Technical Graphics, Interpretation, and CAD | 3 |
| TSM 240 | Introduction to Manufacturing Processes | 3 |
| TSM 337 | Fluid Power Systems Technology | 3 |
| TSM 340 | Advanced Automated Manufacturing Processes | 3 |
| TSM 440 | Cellular Lean Manufacturing Systems | 3 |
| TSM 443 | Statics and Strength of Materials for Technology | 3 |
| TSM 444 | Facility Planning | 3 |
| TSM 465 | Automation Systems | 3 |
| 9 credits of supportive electives | | 9 |
| Total Credits | | 33 |

**Occupational Safety Option: 33 cr.**

| | | |
|---|---|---|
| TSM 240 | Introduction to Manufacturing Processes | 3 |
| TSM 371 | Occupational Safety Management | 2 |
| TSM 372 | Legal Aspects of Occupational Safety and Health | 2 |
| TSM 376 | Fire Protection and Prevention | 3 |
| TSM 470 | Industrial Hygiene: Physical, Chemical, and Biological Hazards | 3 |
| TSM 471 | Safety Laboratory | 1 |
| TSM 477 | Risk Analysis and Management | 3 |
| H S 105 | First Aid and Emergency Care | 2 |
| PSYCH 250 | Psychology of the Workplace | 3 |
| 11 credits of supportive electives | | 11 |
| Total Credits | | 33 |