

Department of Instructional Systems and Workforce Development

Department Head: Connie M. Forde
Office: 100 Industrial Education Building

Technology Teacher Education Major (TTE)

Business Technology (BT) and Industrial/Technical Education (ITE) Concentrations

Major Advisors: Pamela Bracey, 258; Connie Forde, 101 IED Building

The Technology Teacher Education/Business Technology degree prepares students to teach business courses at the high school and career and technology centers, teach Information Communication and Technology I and II at the middle school, teach Career Pathways Experience (cooperative education), and Technology Foundations. Graduates acquire a national certification in computer literacy as well as certification to teach online. The TTE/Business Technology degree is offered as a face-to-face program and a distance learning degree.

Licensure areas with Mississippi Department of Education licensure number are as follows:

- 105 Business Education
- 111 Computer Applications
- 917 Career Pathway Experience
- 952 Accounting and Finance
- 955 Management
- 956 Marketing and Economics
- 981 Information and Communication Technology I
- 982 Information and Communication Technology II
- 984 Technology Foundations

The MSU Bulletin is not the final source of information; departmental advisement is important for course sequence and selection. Students should get advisement and approval from their MSU advisors for course scheduling.

Information Technology Services Major (ITS) non-teaching

Major Advisors: Chien Yu, 259; Vicki Keel, 114; Maria Earle, 261.

This curriculum is designed to prepare students for the use of computer-based information systems, particularly software applications and hardware and the development and implementation of information technology end user support and information technology project management.

Minor in Business Administration. By completing the business requirements for the ITS degree, students may be eligible to receive a minor in Business Administration from the College of Business. ITS

majors interested in a minor in business administration should contact an academic coordinator in room 106 McCool Hall.

MSU Bulletin is not the final source of information; department advisement is critically important for course sequence and selection. Students should always get advisement and approval from MSU advisor for course scheduling.

Industrial Technology Major (INDT) non-teaching

Major Advisors: Dr. John Wyatt, Mickey Giordano and Mervin Mize
Office: 110 IED Building

This curriculum is designed for students who want to prepare for employment leading to supervisory and management positions in the production, automation, maintenance or logistics areas of industry. The role of the Industrial Technology graduate is that of a facilitator of ideas from senior management to the production floor. Successful completion of the four-year curriculum would provide an excellent background in science, mathematics, design and human relations. This is coupled with the practical use of both manual and automated machinery and the associated tools, as well as knowledge of industrial manufacturing processes, materials and logistics.

To this extent the curriculum is divided into three concentrations:

- Industrial Automation
- Industrial Distribution
- Manufacturing & Maintenance Management

These concentrations are designed to give students a specialization that they can take into the workforce and build upon throughout their industrial career. Graduates should quickly become proficient in both the supervisory and administrative roles of dealing with personnel, and depending upon the concentration selected, the graduate should become adept in the various aspects of the manufacture, distribution and automation of industrial products and processes. Employment opportunities are good.

The MSU Bulletin is not the final source of information. Departmental advisement is critically important for the course sequence and selection. Students should always get advisement and approval from their MSU advisor for course scheduling.

Upper division courses (3000 level and up) must be taken at a senior college or university. See a faculty advisor for prerequisites and proper course sequence.

NOTE: This curriculum lends itself well to a minor in Business Administration or Marketing.

Teacher Technology Education

English Composition

| | | |
|------------|----------------------------|---|
| EN 1103 | English Composition I | 3 |
| or EN 1163 | Accelerated Composition I | |
| EN 1113 | English Composition II | 3 |
| or EN 1173 | Accelerated Composition II | |

Mathematics

| | | |
|--|-----------------|---|
| MA 1313 | College Algebra | 3 |
| MA higher than MA 1313 (see General Education courses) | | 3 |

| | | |
|---|---|---|
| Science | | |
| Lab Science (see General Education courses) | | 3 |
| Lab Science (see General Education courses) | | 3 |
| Math/Science Elective | | |
| See General Education courses | | 3 |
| Humanities | | |
| See General Education courses | | 3 |
| Fine Arts | | |
| See General Education courses | | |
| Social/Behavioral Science | | |
| PSY 1013 | General Psychology | 3 |
| EC 2113 | Principles of Macroeconomics | 3 |
| Major Core | | |
| EDF 3333 | Social Foundations of Education | 3 |
| EDF 4243 | Planning for the Diversity of Learners ¹ | 3 |
| EPY 3143 | Human Development and Learning Strategies in Education ¹ | 3 |
| EPY 3253 | Evaluating Learning ¹ | 3 |
| EDX 3213 | Psychology and Education of Exceptional Children and Youth | 3 |
| EDS 4873 | Seminar in Managing the Secondary Classroom ¹ | 3 |
| or TKT 4873 | Professional Seminar in Vocational/Technical Education | |
| TKT 3003 | Practicum in Technology Teacher Education | 3 |
| TKT 4886 | Teaching Internship ¹ | 6 |
| TKT 4896 | Teaching Internship ¹ | 6 |
| Oral Communication Requirement | | |
| CO 1003 | Fundamentals of Public Speaking | 3 |
| or CO 1013 | Introduction to Communication | |
| Writing Requirement | | |
| MGT 3213 | Organizational Communications | 3 |
| Concentration Requirements | | |
| ACC 2013 | Principles of Financial Accounting | 3 |
| ACC 2023 | Principles of Managerial Accounting | 3 |
| BL 2413 | The Legal Environment of Business | 3 |
| or PHI 3013 | Business Ethics | |
| EC 2123 | Principles of Microeconomics | 3 |
| MKT 3013 | Principles of Marketing | 3 |
| MGT 3213 | Organizational Communications | 3 |
| TKB 1123 | Document Formatting/ Information Processing | 3 |
| TKB 2122 | Introduction to Database Management | 2 |
| TKB 2132 | Introduction to Spreadsheet Design and Analysis | 2 |
| TKB 3133 | Administrative Management and Procedures | 3 |
| TKB 4543 | Advanced Information Processing | 3 |
| TKB 4563 | Introduction to Data Networks | 3 |
| or TKT 4743 | Elements of Electronic Desktop Publishing | |
| or TKT 4763 | Digital Tool for 21st Century Teaching and Learning | |
| TKB 4583 | Graphics and Web Design | 3 |
| TKT 4143 | History and Philosophy of Career and Technology Education | 3 |

| | | |
|--------------------|--|------------|
| TKT 4153 | Methods of Teaching Economics/Business Pathways ¹ | 3 |
| TKT 4183 | Methods of Teaching Career Pathway Experience | 3 |
| TKT 4213 | Methods of Teaching Business Subjects | 3 |
| TKT 4463 | Methods of Teaching Technology in the Middle School | 3 |
| Total Hours | | 124 |

¹ Requires admission to Teacher Education.

Information Technology Services Major (ITS) non-teaching

Major Advisors: Chien Yu, 259; Vicki Keel, 114; Maria Earle, 102.

General Education Requirements

English Composition

| | | |
|------------|----------------------------|---|
| EN 1103 | English Composition I | 3 |
| or EN 1163 | Accelerated Composition I | |
| EN 1113 | English Composition II | 3 |
| or EN 1173 | Accelerated Composition II | |

Mathematics

| | | |
|-------------|--------------------------------|---|
| MA 1313 | College Algebra | 3 |
| ST 2113 | Introduction to Statistics | 3 |
| or BQA 2113 | Business Statistical Methods I | |

Science

| | | |
|---|--|---|
| Natural Science w/lab - see General Education courses | | 3 |
| Natural Science w/lab - see General Education courses | | 3 |

Math/Science Elective

| | | |
|-------------------------------|--|---|
| See General Education courses | | 3 |
|-------------------------------|--|---|

Humanities

| | | |
|---|--|---|
| US or World History - see General Education courses | | 3 |
| Literature - see General Education courses | | 3 |

Fine Arts

| | | |
|-------------------------------|--|---|
| See General Education courses | | 3 |
|-------------------------------|--|---|

Social/Behavioral Science

| | | |
|----------|---------------------|---|
| PSY 1013 | General Psychology | 3 |
| PS 1113 | American Government | 3 |

College Core

Oral Communication Requirement

| | | |
|---------|---------------------------------|---|
| CO 1003 | Fundamentals of Public Speaking | 3 |
|---------|---------------------------------|---|

Computer Literacy Requirement

| | | |
|----------|--|---|
| TKT 1273 | Computer Applications (or other approved course) | 3 |
|----------|--|---|

Writing Requirement

| | | |
|----------|-------------------------------|---|
| MGT 3213 | Organizational Communications | 3 |
|----------|-------------------------------|---|

Major Core

Business Courses

| | | |
|----------|---|---|
| ACC 2013 | Principles of Financial Accounting | 3 |
| ACC 2023 | Principles of Managerial Accounting | 3 |
| BL 2413 | The Legal Environment of Business | 3 |
| EC 2113 | Principles of Macroeconomics | 3 |
| EC 2123 | Principles of Microeconomics | 3 |
| MGT 3114 | Principles of Management and Production | 4 |

| | | |
|---------------------------|---|------------|
| MGT 3213 | Organizational Communications | 3 |
| MGT 3513 | Introduction to Human Resource Management | 3 |
| BIS 1733 | Visual Basic Programming | 3 |
| BIS 3233 | Management Information Systems | 3 |
| Technology Courses | | |
| TKB 1123 | Document Formatting/ Information Processing | 3 |
| TKB 1312 | Information Resource Management | 2 |
| TKB 2122 | Introduction to Database Management | 2 |
| TKB 2132 | Introduction to Spreadsheet Design and Analysis | 2 |
| TKB 3133 | Administrative Management and Procedures | 3 |
| TKB 4283 | Advanced Office Systems | 3 |
| TKB 4543 | Advanced Information Processing | 3 |
| TKB 4563 | Introduction to Data Networks | 3 |
| TKB 4583 | Graphics and Web Design | 3 |
| TKT 3213 | Call Center Management | 3 |
| TKT 3463 | Computer Repair and Maintenance | 3 |
| TKT 3623 | Designing Technology Training | 3 |
| TKT 4343 | Information Technology Project Management | 3 |
| TKT 4623 | Delivery and Evaluation of Technology Training | 3 |
| TKT 4683 | Senior Seminar in Information Technology Services | 3 |
| TKT 4743 | Elements of Electronic Desktop Publishing | 3 |
| TKT 4753 | Teaching and Presenting with Multimedia | 3 |
| Approved Elective | | 3 |
| Total Hours | | 124 |

Industrial Technology Major (INDT) non-teaching

Major Advisors: Dr. John Wyatt, Mickey Giordano and Mervin Mize
Office: 110 IED Building

General Education Requirements

English Composition

| | | |
|------------|----------------------------|---|
| EN 1103 | English Composition I | 3 |
| or EN 1163 | Accelerated Composition I | |
| EN 1113 | English Composition II | 3 |
| or EN 1173 | Accelerated Composition II | |

Mathematics

| | | |
|---------|---|---|
| MA 1313 | College Algebra | 3 |
| MA 1323 | Trigonometry | 3 |
| MA 1613 | Calculus for Business and Life Sciences I | 3 |

Science

| | | |
|---------|--|---|
| CH 1043 | Survey of Chemistry I | 3 |
| PH 1013 | Physical Science Survey I (w/ lab (PH 1011)) | 3 |
| PH 1113 | General Physics I (w/lab) | 3 |

Humanities

| | | |
|-------------------------------|--|---|
| See General Education courses | | 6 |
|-------------------------------|--|---|

Fine Arts

| | | |
|-------------------------------|--|---|
| See General Education courses | | 3 |
|-------------------------------|--|---|

Social/Behavioral Science

| | | |
|--|--|---|
| See General Education courses ¹ | | 6 |
|--|--|---|

Major Core

| | | |
|----------|---|---|
| BQA 2113 | Business Statistical Methods I | 3 |
| TKI 1203 | Industrial Communications | 3 |
| TKI 1814 | Basic Industrial Electricity and Electronics | 4 |
| TKI 2113 | Introduction to PLC Programming | 3 |
| TKI 2123 | Introduction to CNC Programming | 3 |
| TKI 2323 | Forging, Welding and Foundry | 3 |
| TKI 3044 | Industrial Safety | 4 |
| TKI 3063 | Industrial Human Relations | 3 |
| TKI 3104 | Advanced Industrial Electricity and Electronics | 4 |
| TKI 3183 | Machine Metal Processing | 3 |
| TKI 3224 | Industrial Materials Technology | 4 |
| TKI 3243 | Industrial Metrology | 3 |
| TKI 3343 | CAD/CAM | 3 |
| TKI 3353 | Forecasting and Cost Modeling | 3 |
| TKI 3363 | Motion and Time Study | 3 |
| TKI 4113 | Industrial Fluid Power | 3 |
| TKI 4213 | Survey of Energy Sources and Power Technology | 3 |
| TKI 4224 | Quality Assurance | 4 |

Writing Requirement

| | | |
|------------------------------|--|---|
| Choose one of the following: | | 3 |
| AIS 3203 | Professional Writing in Agriculture, Natural Resources, and Human Sciences (recommended) | |
| EN 3313 | Writing for the Workplace | |
| MGT 3213 | Organizational Communications | |

Footnotes

- 1 EC 2113 and EC 2123 recommended for business minors

Choose one of the following concentrations:

Industrial Distribution Concentration (IDIS)

| | | |
|---|-------------------------|------------|
| MKT 3013 | Principles of Marketing | 3 |
| MKT 4113 | Personal Selling | 3 |
| MKT 4123 | Advertising | 3 |
| Marketing (MKT) electives - See advisor | | 6 |
| TKI Electives - See advisor | | 6 |
| Total Hours | | 123 |

Industrial Automation Concentration (IAUT)

| | | |
|------------------------------------|------------------------------------|------------|
| ACC 2013 | Principles of Financial Accounting | 3 |
| BL 2413 | The Legal Environment of Business | 3 |
| TKI 4103 | Industrial Control Systems | 3 |
| TKI 4203 | Automated Systems | 3 |
| TKI 4233 | Maintenance Management | 3 |
| TKI 4303 | Industrial Robotics | 3 |
| TKI or MGT Electives - See advisor | | 3-4 |
| Total Hours | | 124 |

Manufacturing & Maintenance Management Concentration (MFMA)

| | | |
|----------|---|---|
| ACC 2013 | Principles of Financial Accounting | 3 |
| BL 2413 | The Legal Environment of Business | 3 |
| MGT 3114 | Principles of Management and Production | 4 |

| | | |
|-----------------------------|---|------------|
| TKI 4103 | Industrial Control Systems | 3 |
| TKI 4233 | Maintenance Management | 3 |
| TKI 4263 | Manufacturing Technology and Processing | 3 |
| TKI Electives - See advisor | | 3 |
| Total Hours | | 124 |

A minor in Industrial Technology will help non-industrial technology students who wish to enter the field of manufacturing. Students will become familiar with the basic concepts of industrial practices and the machines and components that make up many manufacturing companies. This is combined with laboratory work to enhance these concepts and to give an understanding of how the many manufacturing systems are integrated. Academic advising is available from the Industrial Technology program in the Industrial Education Building.

A minimum of 21 hours must be taken to obtain the INDT minor. A minimum of 12 hours must be taken at MSU to receive the minor. Note that some choices requires others as prerequisites.

Required Courses

| | | |
|----------|---------------------------------|---|
| TKI 1203 | Industrial Communications | 3 |
| TKI 2113 | Introduction to PLC Programming | 3 |
| TKI 2123 | Introduction to CNC Programming | 3 |
| TKI 4113 | Industrial Fluid Power | 3 |

Electives - Select any three:

| | | |
|----------|---|--|
| TKI 3044 | Industrial Safety | |
| TKI 3224 | Industrial Materials Technology | |
| TKI 4224 | Quality Assurance | |
| TKI 4233 | Maintenance Management | |
| TKI 4263 | Manufacturing Technology and Processing | |
| TKI 4303 | Industrial Robotics | |