

Manufacturing Engineering Technology B.S. Course Sequence (Typical)

Undergraduate Catalog - 2016/2017

Total undergraduate credits 124

Freshman (fall)

3 ENGL103 - Composition I
3 COMS 100 - Fundamentals of Oral Communication
3 CHEM 110 - Chemistry or CHEM 210 - General Chem I
1 CHEM 111 - Chem Lab or CHEM 212 - Gen Chem Lab I
3 MATH 155 - Trigonometry
3 TECH 211 - Computer-Aided-Design

16

Freshman (Spring)

4 MATH 229 - Calculus I
3 ENGL 203 - Composition II
3 TECH 265 - Basic Manufacturing Processes
3 TECH 262 - Machine Production Processes
4 PHYS 210 - General Physics I

17

Sophomore (fall)

4 MATH 230 - Calculus II
3 TECH 175 - Electronics and Electricity Fundamentals
1 TECH 175A - Electronics & Electricity Fund Lab
3 TECH 393 - Structure and Properties of Materials
3 General Education Requirement 1
3 Manufacturing Processes Elective 1

17

Sophomore (Spring)

2 TECH 210 - Engineering Mechanics
2 TECH 212 - Engineering Dynamics
3 TECH 311 - Computer-Aided Modeling
3 TECH 295 - Mfg Comp Apps or CSCI 240 - Comp Prog in C++
3 STAT 208 - Basic Stats or STAT 301 - Elementary Stats
3 General Education Requirement 2

16

Junior (fall)

3 TECH 369 - Strength of Materials
3 TECH 425 - Programmable Electronic Controllers
3 TECH 391 - Industrial Quality Control
3 Engl 308 - Tech Writing or Mgmt 346 - Bus Comms
3 General Education Requirement 3

15

Junior (Spring)

3 TECH 326 - Fluid Mechanics/Lab
3 TECH 342 - Manufacturing Component Design
3 TECH 443 - Engineering Economy
3 Manufacturing Processes Elective 2
3 General Education Requirement 4

15

Senior (fall)

3 TECH 415 - Applied Industrial Experimental Analysis
3 TECH 420 Computer-Integrated Manufacturing
1 TECH 477 - Egr Tech Senior Design Project I
3 Manufacturing Systems Elective 1
3 Manufacturing Systems Elective 2

13

Senior (Spring)

3 TECH 362 - Numerical Control Systems
3 TECH 423 - Automated Manufacturing Systems
3 TECH 478 - Egr Tech Senior Design Project II
3 Manufacturing Systems Elective 3
3 General Education Requirement 5

15

Manufacturing Systems Electives (3 courses)

TECH 305 - Green Technologies
TECH 404 - Supervision in Industry
TECH 406 - Facilities Management Technology
TECH 409 - Internship
TECH 429 - Plant location, Layout, and Materials Handling
TECH 434 - Human Factors in Industrial Accident Prevention
TECH 442 - Work Simplification and Measurement
TECH 444 - Production Control Systems
TECH 484 - Energy Management
TECH 492 - Manufacturing Distribution Applications
TECH 496 - Industrial Project Management

Manufacturing Processes Electives (2 courses)

TECH 260 - Metal Fabrication Processes
TECH 312 - Design Dimensioning and Tolerancing
TECH 313 - Product Design & Development for Manufacturability
TECH 314 - Tool & Die Design
TECH 344 - Materials and Processes in the Plastics Industry
TECH 365 - Metrology
TECH 416 - Heating, Ventilating, and Air Cond Tech
TECH 417 - Design for Energy Efficiency and Green Materials
TECH 427 - Testing Methods, Procedures, & Selection of Sustainable Plastics
TECH 479 - Special Topics in Engineering Technology

Note: Semester offering and prerequisites may change, the current bulletin and schedule should be consulted
 Legend - **p** - prerequisite **c**-corequisite **f** - fall semsetr **s** - spring semester

<input type="checkbox"/> Engl 103 RHETORIC AND COMPOSITION I - (f,s)	<input type="checkbox"/> Chem 110 (or Chem210T) GENERAL CHEMISTRY I - (f,s)	<input type="checkbox"/> Math 155 TRIGONOMETRY - (f,s)	p:Math110, or placement test
<input type="checkbox"/> Engl 203 RHETORIC AND COMPOSITION II - (f,s)	<input type="checkbox"/> Chem 111 (or Chem212) GENERAL CHEMISTRY I LAB - (f,s)	<input type="checkbox"/> Math229 CALCULUS I - (f,s)	p:Math155, or placement test
<input type="checkbox"/> Coms 100 FUNDAMENTALS OF ORAL COMM - (f,s)	<input type="checkbox"/> Stat 208 (or Stat 301) STATISTICS - (f,s)	<input type="checkbox"/> Math230 CALCULUS II - (f,s)	p:Math229
<input type="checkbox"/> Engl 308 or Mgmt 346 Technical Writing or Business Comms (f,s)	<input type="checkbox"/> Phy 210 (or Phys 253) GENERAL PHYSICS - (f,s)		p:Math155 (or Phys 253) c:Math229

Required Technology Courses

<input type="checkbox"/> Tech175 ELECTRICITY AND ELECT FUND - (f,s)	<input type="checkbox"/> Tech 295 MFG COMP APPS or VISUAL BASIC p: Math 110	<input type="checkbox"/> Tech 393 STRUCT AND PROP OF MATERIALS - (f)	p:Math155, Phys210
<input type="checkbox"/> Tech175a ELECTRICITY AND ELECT FUND lab - (f,s)	or <input type="checkbox"/> Csci 240 COMP PROGRAMMING IN C++ - (f,s)	<input type="checkbox"/> Tech 415 APPLIED INDUSTRIAL EXPERIMENTAL ANALYSIS - (s)	p:Math155, Tech 265 or Csci 215
<input type="checkbox"/> Tech 210 ENGINEERING MECHANICS - (s)	<input type="checkbox"/> Tech 311 ADV COMPUTER-AIDED MODELING - (s)	<input type="checkbox"/> Tech 420 COMPUTER-INTEGRATED MANUFACTURING - (f)	p:Phys210 or 253 c:M229
<input type="checkbox"/> Tech 211 CAD/COMP-AIDED MODELING - (f,s)	<input type="checkbox"/> Tech 326 FLUID POWER TECHNOLOGY - (s)	<input type="checkbox"/> Tech 423 AUTOMATED MANUFACTURING SYSTEMS - (s)	p:Tech 211 C or better
<input type="checkbox"/> Tech 212T ENGINEERING Dynamics - (s)	<input type="checkbox"/> Tech 342 MANUFACTURING COMPONENT DESIGN - (s)	<input type="checkbox"/> Tech 425 PROGRAMMABLE ELECT CONTROLLERS - (f)	p:Math229, Phys210
<input type="checkbox"/> Tech 262 MACHINE PRODUCTION PROCESSES - (f,s)	<input type="checkbox"/> Tech 362 NUMERICAL CONTROLS SYSTEMS - (s)	<input type="checkbox"/> Tech 443 ENGINEERING ECONOMY - (f,s)	p:Math230, T211, T212, T369
<input type="checkbox"/> Tech 265 BASIC MANUFACTURING PROCESSES - (f,s)	<input type="checkbox"/> Tech 369 STRENGTH OF MATERIALS - (f)	<input type="checkbox"/> Tech 477 ENGINEERING TECH SEN DESIGN PROJECT I - (f,s)	p:Tech262; T295 or Csci 215 or 240
	<input type="checkbox"/> Tech 391 INDUSTRIAL QUALITY CONTROL - (f, s)	<input type="checkbox"/> Tech 478 ENGINEERING TECH SEN DESIGN PROJECT II - (f,s)	p:Math 229, Tech210

Technology Department Electives

Manufacturing Systems

Choose 3 courses

<input type="checkbox"/> Tech 305 GREEN TECHNOLOGIES	<input type="checkbox"/> Tech 434 HUMAN FACTORS IN IND ACCIDENT PREV (f, s)
<input type="checkbox"/> Tech 404 SUPERVISION IN INDUSTRY - (f,s)	<input type="checkbox"/> Tech 442 WORK SIMPLIF AND MEAS - (f)
<input type="checkbox"/> Tech 406 FACILITIES MANAGEMENT TECH - (s)	<input type="checkbox"/> Tech 444 PRODUCTION CONTROL SYSTEMS - (s)
<input type="checkbox"/> Tech 409 INTERNSHIP	<input type="checkbox"/> Tech 484 ENERGY MANAGEMENT - (s)
<input type="checkbox"/> Tech 429 PLANT LOC, LAYOUT, & MATS HANDLING - (f)	<input type="checkbox"/> Tech 492 MANUFACTURING DISTRIBUTION APPS - (f)
	<input type="checkbox"/> Tech 496 INDUSTRIAL PROJECT MANAGEMENT - (f,s)

Manufacturing Processes -

Choose 2 courses

<input type="checkbox"/> Tech 260 METAL FAB PROCESSES - (f)	p: Tech 211, Math155
<input type="checkbox"/> Tech 312 DESIGN DIM AND TOLERANCING - (s)	p:Tech 211; Tech 260 or Tech 265
<input type="checkbox"/> Tech 313 PRODUCT DESIGN AND DEVELOPMENT FOR MFG (f)	p: Math 155; Tech 311; Tech 265
<input type="checkbox"/> Tech 314 TOOL AND DIE DESIGN (f)	p: Math 155; Tech 211
<input type="checkbox"/> Tech 344 MATS AND PROCS IN THE PLASTICS IND - (f)	p: Math 155; Tech 265; Chem 110
<input type="checkbox"/> Tech 365 METROLOGY - (f)	p: Tech 211, Math155
<input type="checkbox"/> Tech 416 HEATING, VENTILATING, AND AIR COND TECHNOLOGY	p: Math 155, Phys 210
<input type="checkbox"/> Tech 417 DESIGN FOR ENERGY EFFICIENCY & GREEN MATERIALS	p: Math 155, Phys 210
<input type="checkbox"/> Tech 427 TEST METH, PROCED, & SELECT OF SUSTAIN PLASTICS (f)	p: T265 or T344; Chem 110; Engl 308
<input type="checkbox"/> Tech 479 SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	p: see My NIU

General Education Knowledge Domain Courses - See CEET website or online Undergraduate Catalog

Creativity & Critical Analysis - 2 courses

<input type="checkbox"/> _____	(3)
<input type="checkbox"/> _____	(3)

Society & Culture - 2 courses

<input type="checkbox"/> _____	(3)
<input type="checkbox"/> _____	(3)

From any of the Knowledge Domain Areas

<input type="checkbox"/> _____	(3)
--------------------------------	-----