

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

Undergraduate Catalog - 2015/2016

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

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### 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

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### Sophomore (fall)

4 MATH 230 - Calculus II  
3 TECH 175 - Electronics and Electricity Fundamentals  
1 TECH 175A - Electronics & Electricity Fund Lab  
3 STAT 208 - Basic Stats or STAT 301 - Elementary Stats  
3 General Education Requirement 1

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### Sophomore (Spring)

2 TECH 210 - Engineering Mechanics  
2 TECH 212 - Engineering Dynamics  
3 TECH 295 - Mfg Comp Apps or CSCI 215 - Visual Basic or CSCI 240 - Comp Prog in C++  
3 TECH 311 - Computer-Aided Modeling  
3 Manufacturing Processes Elective 1  
3 General Education Requirement 2

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### 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

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### 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

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### Senior (fall)

3 TECH 393 - Structure and Properties of Materials  
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

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### 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 2  
3 General Education Requirement 6

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### Manufacturing Systems Electives (2 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 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 p:Engl 103 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 p:Math155 (or Phys 253 c:Math229) GENERAL PHYSICS - (f,s)		

**Required Technology Courses**

<input type="checkbox"/> Tech175 p:Math155, Phys210 ELECTRICITY AND ELECT FUND - (f,s)	<input type="checkbox"/> Tech 295 p:Math155, Tech 265 or Csci 215 MFG COMP APPS (f) or VISUAL BASIC p: Math 110	<input type="checkbox"/> Tech 393 p:T265; Chem110 or Chem210 STRUCT AND PROP OF MATERIALS - (f)
<input type="checkbox"/> Tech175a c:TECH175 ELECTRICITY AND ELECT FUND lab - (f,s)	or <input type="checkbox"/> Csci 240 p:Math 110 COMP PROGRAMMING IN C++ - (f,s)	<input type="checkbox"/> Tech 415 p: Math 155, Stat 208 APPLIED INDUSTRIAL EXPERIMENTAL ANALYSIS - (f)
<input type="checkbox"/> Tech 210 p:Phys210 or 253 c:M229 ENGINEERING MECHANICS - (s)	<input type="checkbox"/> Tech 311 p:Tech 211 C or better ADV COMPUTER-AIDED MODELING - (s)	<input type="checkbox"/> Tech 420 p:Tech 175/175A, T211, T265 COMPUTER-INTEGRATED MANUFACTURING - (f)
<input type="checkbox"/> Tech 211 CAD/COMP-AIDED MODELING- (f,s)	<input type="checkbox"/> Tech 326 p:Math230, Phys210 FLUID POWER TECHNOLOGY - (s)	<input type="checkbox"/> Tech 423 p:Tech 326, Tech 420, Tech 425 AUTOMATED MANUFACTURING SYSTEMS - (s)
<input type="checkbox"/> Tech 212T c:Tech210, Math229 ENGINEERING Dynamics - (s)	<input type="checkbox"/> Tech 342 p:Math230, T211, T212, T369 MANUFACTURING COMPONENT DESIGN - (s)	<input type="checkbox"/> Tech 425 p:Tech175; T265; T295 or Csci 215 or 240 PROGRAMMABLE ELECT CONTROLLERS - (f)
<input type="checkbox"/> Tech 262 p:Tech211 MACHINE PRODUCTION PROCESSES - (f,s)	<input type="checkbox"/> Tech 362 p:Tech262; T295 or Csci 215 or 240 NUMERICAL CONTROLS SYSTEMS - (s)	<input type="checkbox"/> Tech 443 p:Math155 ENGINEERING ECONOMY - (f,s)
<input type="checkbox"/> Tech 265 p:Math155 BASIC MANUFACTURING PROCESSES - (f,s)	<input type="checkbox"/> Tech 369 p:Math 229, Tech210 STRENGTH OF MATERIALS - (f)	<input type="checkbox"/> Tech 477 p: Engl 308, Tech 342, Tech 369, Tech 391 ENGINEERING TECH SEN DESIGN PROJECT I - (f,s)
	<input type="checkbox"/> Tech 391 p: Math 155, Stat 208 or 301 INDUSTRIAL QUALITY CONTROL - (f, s)	<input type="checkbox"/> Tech 478 p: Tech 477 ENGINEERING TECH SEN DESIGN PROJECT II - (f,s)

**Technology Department Electives**

**Manufacturing Systems**

**Choose 2 courses**

<input type="checkbox"/> Tech 305 p: Math 155, Chem 110 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 p:Math155 & Tech 265 WORK SIMPLIF AND MEAS - (f)
<input type="checkbox"/> Tech 406 FACILITIES MANAGEMENT TECH - (s)	<input type="checkbox"/> Tech 444 p:Math155 & Tech 265 PRODUCTION CONTROL SYSTEMS - (s)
<input type="checkbox"/> Tech 409 p: Junior standing INTERNSHIP	<input type="checkbox"/> Tech 484 p: Math155 ENERGY MANAGEMENT - (s)
<input type="checkbox"/> Tech 429 p:Math 155 & Tech 265 PLANT LOC, LAYOUT, & MATS HANDLING - (f)	<input type="checkbox"/> Tech 492 p: Math 155, Stat 208 MANUFACTURING DISTRIBUTION APPS - (f)
	<input type="checkbox"/> Tech 496 p: T429; T 415 ; Mgmt 346 or Engl 308 INDUSTRIAL PROJECT MANAGEMENT - (f,s)

**Manufacturing Processes -**

**Choose 2 courses**

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

**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)
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