

**DEPARTMENT OF INDUSTRIAL & ENGINEERING TECHNOLOGY  
BACHELOR OF SCIENCE  
INDUSTRIAL TECHNOLOGY MAJOR  
TELECOMMUNICATIONS & COMPUTER NETWORKING OPTION**

The Industrial Technology major with a Telecommunications & Computer Networking option is designed to prepare students with background and skills to design, implement, and support networked systems in both standard and enterprise settings. It builds a solid foundation in the hardware and architecture of telecommunications networks and systems; operating systems and applications; systems design and analysis; networking theory and solutions; types of networks, including fiber optics and wireless; network management and control; network and flow optimization; network security; configuring; and troubleshooting.

**CURRICULUM CHECKLIST**

**UNIVERSITY STUDIES (53 hours)**

___ UI 100 First Year Seminar	3
___ Artistic Expression	3
___ Literary Expression	3
___ Oral Expression	3
___ EN 100 English Composition	3
___ Written Expression	3
___ Behavioral Systems	3
___ Living Systems	3
___ MA 134 College Algebra (Logical Systems)	3
___ PH 120/020 Introductory Physics I (Physical Systems)	5
___ Development of a Major Civilization	3
___ MN 220 Engineering Economic Analysis (Economic Systems)	3
___ Political Systems	3
___ SW 207 Understanding Cult & Soc Diversity (Social Systems)	3
___ UI 3xx Interdisciplinary University Studies Course (UI319 recommended)	3
___ UI 3xx Interdisciplinary University Studies Course	3
___ UI 410 Manufacturing Research in a Global Society (Senior Seminar)	3
___ WP003 Writing Proficiency Test	0
___ MAPP Academic Proficiency & Progress Test (to be taken after completing 75 hours)	0
___ CL001 ___ CL002 ___ CL003 ___ CL004 Career Linkages Requirements	0

**INDUSTRIAL TECHNOLOGY CORE**

**(26 Hours, not counting 17 hours included in University Studies section)**

___ IM 102 Technical Communication	3
___ IM 301 Industrial Safety	3
___ IM 311 Statistical Process Control	3
___ IM 419 Industrial Supervision	3
___ IM 506 Projects in IET	3
___ MA 133 Plane Trigonometry	3
___ MN 260 Technical Computer Programming Applications	3
___ PH 121/021 Introductory Physics II	5

**IT required courses included in University Studies section above: MA134, MN220, PH120, SW207, and UI410**

**TELECOMMUNICATION AND COMPUTER NETWORKING OPTION (42 Hours)**

___ ET 160 Basic Electricity and Electronics	3
___ ET 245 Logic Circuits	3
___ IM 317 Cooperative Industrial Internship <b>OR</b> MI 440 Web Design Electronic Commerce	3
___ MA 139 Applied Calculus	3
___ TN 254 Fiber Optics & Networking Communications	3
___ TN 255 Microcomputer Maintenance & Troubleshooting	3
___ TN 275 Network Fundamentals	3
___ TN 375 Network Routing Protocol and Concepts	3
___ TN 395 Server Maintenance & Troubleshooting	3
___ TN 425 Wireless Communication & Mobile Data Networks	3
___ TN 435 Network Security	3
___ TN 563 LAN Switching	3
___ TN 565 Network Management	3
___ TN 566 IP Telephony	3

## EXAMPLE PROGRAM OF STUDY

### BS - Industrial Technology major - Telecommunications and Computer Networking option

#### FRESHMAN FALL SEMESTER (15 hrs)

EN 100 English Comp I  
IM 102 Technical Communication  
ET 160 Basic Electricity & Electronics  
MA 134 College Algebra  
UI 100 First Year Seminar  
CL001 Career Linkages 1<sup>st</sup> Requirement

#### FRESHMAN SPRING SEMESTER (15 hrs)

MA 133 Plane Trigonometry  
MN 260 Technical Computer Programming Appl.  
Behavioral Systems  
Written Expression  
Oral Expression  
CL002 Career Linkages 2<sup>nd</sup> Requirement

#### SOPHOMORE FALL SEMESTER (14 hrs)

ET 245 Logic Circuits  
MA 139 Applied Calculus  
PH 120 Introductory Physics I  
TN 255 Microcomputer Maint. & Troub. (ET245  
co-req)

#### SOPHOMORE SPRING SEMESTER (17 hrs)

IM 301 Industrial Safety  
PH 121 Introductory Physics II  
Literary Expression  
Political Systems  
SW 207 Understanding Cult. & Soc. Diversity (Social  
Systems)

#### JUNIOR FALL SEMESTER (15 hrs)

IM 311 Statistical Process Control  
TN 254 Fiber Optics & Network Communications  
TN 275 Network Fundamentals  
Artistic Expression  
Living Systems  
CL003 Career Linkages 3<sup>rd</sup> Requirement  
MAPP Academic Proficiency & Progress Test

#### JUNIOR SPRING SEMESTER (15 hrs)

MN 220 Engineering Economic Analysis  
TN 375 Network Routing Protocols & Concepts  
TN 395 Server Maintenance & Troubleshooting  
TN 563 LAN Switching  
UI 3xx University Studies (UI319 recommended)  
WP003 Writing Proficiency Exam

#### SENIOR FALL SEMESTER (15 hrs)

IM 419 Industrial Supervision  
IM 506 Projects in IET  
TN 435 Network Security  
TN 565 Network Management  
IM 317 Cooperative Industrial Internship  
OR MI 440 Web Design Electronic  
Commerce  
CL004 Career Linkages 4<sup>th</sup> Requirement

#### SENIOR SPRING SEMESTER (15 hrs)

TN 425 Wireless Communication & Mobile Data  
Networks  
TN 566 IP Telephony  
UI 3xx University Studies  
UI 410 Manufacturing Research in a Global Society  
Development of a Major Civilization

**121 Hours**

#### Notes:

- This proposed rotation is suggested. You will need to meet with your advisor every semester for advising and discussions about your progress and plans.
- Course prerequisites and rotations can change. Even if you fall under an older option of a major, changes in prerequisites apply to all students. For current prerequisites and course rotation, check with the Department of Industrial and Engineering Technology or the Polytechnic Studies Advising Center.
- An internship is highly recommended – the summer after your junior year is a good time
- For course descriptions, see the latest undergraduate bulletin OR [www.semo.edu/bulletin](http://www.semo.edu/bulletin)
- Visit <http://www.semo.edu/ustudies/handbook/index.htm> for information on the University Studies program
- For information on Career Linkages, visit <http://www.semo.edu/careerlinkages/students/index.htm>