The Microcomputer Systems 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. Upon completing this option, students may easily transition to a Bachelor of Science Degree Technology Management Major with a Telecommunications and Computer Networking option.

**CURRICULUM CHECKLIST**

**COMPUTER TECHNOLOGY CORE (37 Hours)**

- EN 100 English Composition OR EN 140 Rhetoric & Critical Thinking 3
- IM 102 Technical Communication 3
- IM 301 Industrial Safety 3
- IM 419 Industrial Supervision 3
- MA 134 College Algebra 3
- MA 133 Plane Trigonometry 3
- MN 260 Technical Computer Programming Applications 3
- PH 120/020 Introductory Physics I 5
- PH 121/021 Introductory Physics II OR CH 181/081/001 Basic Principles of Chemistry 5
- PS 103 U. S. Political Systems 3
- SC 105 Fundamentals of Oral Communication 3

**MICROCOMPUTER SYSTEMS OPTION (33 Hours)**

- ET 160 Basic Electricity & Electronics 3
- ET 245 Logic Circuits (AAS students may take EP305 to substitute) 3
- IM 317 Industrial Internship OR 3
- IS 440 Web Design Electronic Computing 3
- TN 254 Fiber Optics & Network Communications 3
- TN 255 Microcomputer Maintenance & Troubleshooting 3
- TN 275 Network Fundamentals 3
- TN 375 Network Routing Protocols and Concepts 3
- TN 395 Server Maintenance and Troubleshooting 3
- TN 425 Wireless Communications and Mobile Data Networks 3
- TN 435 Network Security 3
- TN 563 LAN Switching 3
### EXAMPLE PROGRAM OF STUDY
**AAS - Computer Technology major - Microcomputer Systems option**

**FRESHMAN FALL SEMESTER (15 hrs)**
- **EN 100** English Comp
- **OR** **EN 140** Rhetoric & Critical Thinking
- **IM 102** Technical Communication
- **MA 133** Plane Trigonometry
- **MA 134** College Algebra
- **ET 160** Basic Electricity and Electronics

**FRESHMAN SPRING SEMESTER (14 hrs)**
- **MN 260** Technical Computer Programming Appl.
- **PH 120** Introductory Physics I
- **PS 103** US Political Systems (Political Systems)
- **IM 301** Industrial Safety

**SOPHOMORE FALL SEMESTER (17 hrs)**
- **PH 121** Introductory Physics II
- **ET 245** Logic Circuits
- **TN 254** Fiber Optics & Network Communications
- **TN 255** Microcomputer Maint. & Troubleshooting
- **TN 275** Network Fundamentals

**SOPHOMORE SPRING SEMESTER (12 hrs)**
- **TN 375** Network Routing Protocols & Concepts
- **TN 395** Server Maint. & Troubleshooting
- **TN 425** Wireless Communications and Mobile Data Networks
- **TN 563** LAN Switching

**JUNIOR FALL SEMESTER (15 hrs)**
- **IM 317** Industrial Internship **OR**
- **MN 412** Advanced Manufacturing Sys.
- **IS 440** Web Design Electronic Computing
- **IM 419** Industrial Supervision
- **SC 105** Fundamentals of Oral Communications
- **TN 435** Network Security

**Notes:**
- If you need to take developmental courses, the length of time needed to complete the degree will likely increase.
- 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.
- For course descriptions, see the latest undergraduate bulletin OR [www.semo.edu/bulletin](http://www.semo.edu/bulletin).