

Bachelor of Science (BS)



The Association of Technology, Management, and Applied Engineering

Technology management is a field of study designed to prepare technical and/or management-oriented professionals for employment in business, industry, education, and government. Technology management is primarily involved with the management, operation, and maintenance of complex technological systems while engineering and engineering technology are primarily involved with the design and installation of these systems.

Technology management: telecommunications & computer networking students will...

- Be prepared to design, implement, and support networked systems in both standard and enterprise settings.
- Gain a solid foundation in the hardware and architecture of telecommunication networks and systems, operating systems and applications, system 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.
- Be provided with comprehensive knowledge, skills, and necessary training to pursue careers as information technology professionals.
- Learn concepts of network design, integration, security, administration, and management of computing and telecommunications technologies.
- Learn how to assess and identify user needs and configure and implement systems using current and emerging technologies in the networking and telecommunications field.

Career Planning

Career preparation is part of the mission of Southeast. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad.

Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001/CL002	First Semester	Complete the FOCUS2 assessment and develop a Career Action Plan.
CL003	Junior Year	Students gain information about career planning and job searching resources.
CL004	Senior Year	Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search.

Career Opportunities

- Information Technology Specialist
- Network Administrator/Specialist
- Network Engineer
- Network Manager
- System Administrator
- Telecommunications Specialist
- Technical Specialist

Equipment and Computer Programs

We have developed laboratories to provide our students with an opportunity to master a working knowledge of the basic fundamentals to advanced concepts in network applications and systems administration. Courses are accompanied by hands-on laboratories in which students will:

- Design, configure, and set up networked and telecommunications systems, client server programming, and network administration.
- Configure network hardware and software on Linux and Microsoft-based microcomputers that are connected to wireless systems, the Internet, and a LAN/WAN with switches and routers.
- Perform network protocol analysis and network performance using test equipment and hardware tools such as OptiView, Signal Pro, NS, Qualnet, and Opnet.
- Work with multi-user, multi-tasking network operating systems such as UNIX, Linux, and Windows Server with a focus on network administration.
- Learn principles of communication systems, communication protocols such as Kermit, HDLC, and performance measurement of wired and wireless systems.
- Learn principles and assembling of computers and installation, maintenance, troubleshooting, and repair of computer peripherals and system expansion, including operating systems, memory, disk drives, printers, and displays.
- Develop WWW presence with Web technologies using HTML, scripting languages, and develop database connectivity.
- Learn concepts of systematic ongoing processes of network analysis, design, implementation, maintenance, and security management.
- Practice experiential problem-solving skills through a senior design capstone course for students to work in teams to solve open-ended industrial projects.

Telecommunications & Computer Networking Option

To learn more
Office of Admissions
(573) 651-2590
admissions@semo.edu
semo.edu

To explore
the College of
Science, Technology and
Agriculture online, visit
www.semo.edu/costa

For advising
Center for Academic Advising - North
(573) 651-5090
www.semo.edu/advising
advisingnorth@semo.edu

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This is a guide based on the 2016-2017 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use DegreeWorks to monitor their individual progress.

CURRICULUM CHECKLIST**TECHNOLOGY MANAGEMENT: TELECOMMUNICATIONS & COMPUTER NETWORKING OPTION**

- ET160 Basic Electricity and Electronics (3)
- ET245 Logic Circuits (3)
- IM102 Technical Communication (3)
- IM301 Industrial Safety (3)
- IM311 Statistical Process Control (3)
- IM317 Cooperative Industrial Internship (3)
- OR
- CY201 Introduction to Cybersecurity (3)
- IM419 Industrial Supervision (3)
- IM506 Projects in IET (3)
- MA133 Plane Trigonometry
- MA134 College Algebra (3)
- MA139 Applied Calculus (3)
- MN220 Engineering Econ Analysis (3)
- MN260 Technical Computer Programming Applications (3)
- PH120/020 Introductory Physics I (5)
- PH121/021 Introductory Physics II (5)
- SW207 Understanding Cultural & Social Diversity (3)
- TN255 Microcomputer Maintenance & Troubleshooting (3)
- TN275 Introduction to Networks (3)
- TN375 Routing/Switching Essentials (3)
- TN395 Server Maintenance & Troubleshooting (3)
- TN425 Wireless Communication & Mobile Data Networks (3)
- TN435 Network Security (3)
- TN475 Scaling Networks (3)
- TN563 Connecting Networks (3)
- TN565 Network Management (3)
- TN566 IP Telephony (3)
- UI410 Manufacturing Research in a Global Society (3)

University Studies Requirements (not already listed above):

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Living Systems, Development of a Major Civilization, Political Systems, and two IU/UI3XX

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	IM102	3
	EN100	3	IM301	3
	ET160	3	MA133	3
	MA134	3	MN260	3
	TN255	3	Written Expression	3
	Total	15	Total	15
SECOND YEAR	ET245	3	PH121	5
	MA139	3	SW207	3
	PH120	5	TN375	3
	TN275	3	TN395	3
			Oral Expression	3
	Total	14	Total	17
THIRD YEAR	IM311	3	MN220	3
	TN425	3	TN435	3
	TN475	3	TN563	3
	Literary Expression	3	Behavioral Systems	3
	Living Systems	3	IU/UI3XX	3
	Total	15	Total	15
FOURTH YEAR	IM317	3	TN565	3
	IM419	3	UI410	3
	IM506	3	Artistic Expression	3
	TN566	3	Develop of a Major Civ	3
	Political Systems	3	IU/UI3XX	3
	Total	15	Total	15

Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e., minimum GPA and course work) for your program of study.