

## Wireless Voice & Data Communications

### FACULTY

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<http://www.bates.ctc.edu/WirelessTechnology>

Students prepare for employment as technicians in the wireless communications industry. Few technologies have grown and evolved as quickly as wireless communications. Rapid growth combined with advances in technology creates excellent employment opportunities in this field. Students learn how high-speed voice, data, and video is exchanged among devices located anywhere in the world via optical fibers, telecommunications cabling, telephone, cellular and satellite equipment and broadcast and wireless networks. Students also prepare for industry certifications and federal licenses including the Federal Communications Commission, Cisco CCNA, Network Cabling Specialist and Certified Fiber Optic Technician.

#### Associate of Technology Degree: 106 credits

##### Wireless Voice & Data Communications

		<u>Credits/Hours</u>
Completion Range: 15-23 Months		
ATCS	091 Occupational Human Relations	1/17
ATCS	092 Occupational Communications	2/33
LIB	099 Basic Information Literacy	1/16
ELTCH	105 DC Fundamentals	3/50
ELTCH	106 DC Lab	1/16
ELTCH	107 AC Fundamentals	3/50
ELTCH	108 AC Lab	1/16
ELTCH	115 Analog Fundamentals	3/50
ELTCH	116 Analog Lab	1/16
ELTCH	125 Digital, Logic Fundamentals	3/50
ELTCH	126 Digital Logic Lab	1/16
ELTCH	135 Microcontrollers	3/50
ELTCH	136 Microcontrollers Lab	1/16
APLUS	161 Operating Systems Theory	4/65
APLUS	162 O/S Applied Lab	5/85
APLUS	171 PC Hardware Maintenance	4/65
APLUS	172 Hardware Applications Lab	4/65
CCNA	160 Cisco Internetworking Fundamentals	4/70
CCNA	165 Cisco Routing Theory & Technology	4/70
CCNA	170 Cisco Advanced Routing, Switching	4/70
CCNA	175 Cisco Advanced Networks	4/70
CCNA	181 Advanced Networking Applications Lab	8/135
CIS	108 Fundamentals of UNIX	4/70
CNWL	201 Cisco Fundamentals of Wireless LANs	5/85
WACT	210 Modulation Principles	3/50
WACT	211 Transmitters & Receivers	3/50
WACT	212 Transmission Techniques	3/50
WACT	213 Data Communications Technologies	3/50
WACT	231 Telecommunications, Network Cabling Systems	5/80
WACT	235 Fiber Optics	5/85
WACT	236 RF Communications	4/65
WACT	237 Telecommunication Technologies	7/115
WACT	246 FCC Licensure Prep I	4/65
WACT	247 FCC Licensure Prep II	6/100
WACT	251 Intro to Wireless Communications	3/50
WACT	252 Wired, Wireless Networks	4/66
WACT	253 Cellular/RF/Mobile Communications	4/66
WACT	254 Wireless LAN & Broadband Networks	4/66
WACT	255 Satellite & Advanced Wireless Communications	4/66

##### General Education Requirements

	<u>Credits</u>
100-level or> Human Relations – HREL, PSYCH, SOC or CMST	5
100-level or> Communications – ENGL or CMST	5
100-level or> Mathematics – MATH	5
CMPL 111 Basic Applications	3

#### Certificate of Competency: 77 credits

##### Wireless Technician

		<u>Credits/Hours</u>
Completion Range: 8-18 Months		
ATCS	091 Occupational Human Relations	1/17
ELTCH	105 DC Fundamentals	3/50
ELTCH	106 DC Lab	1/16
ELTCH	107 AC Fundamentals	3/50
ELTCH	108 AC Lab	1/16
ELTCH	115 Analog Fundamentals	3/50
ELTCH	116 Analog Lab	1/16
ELTCH	125 Digital, Logic Fundamentals	3/50
ELTCH	126 Digital Logic Lab	1/16
ELTCH	135 Microcontrollers	3/50
ELTCH	136 Microcontrollers Lab	1/16
APLUS	161 Operating Systems Theory	4/65
APLUS	162 O/S Applied Lab	5/85
APLUS	171 PC Hardware Maintenance	4/65
APLUS	172 Hardware Applications Lab	4/65
CCNA	160 Cisco Internetworking Fundamentals	4/65
CCNA	165 Cisco Routing Theory & Technology	4/65
CCNA	170 Cisco Advanced Routing, Switching	4/65
CCNA	175 Cisco Advanced Networks	4/65
CCNA	181 Advanced Networking Applications Lab	8/135
CIS	108 Fundamentals of UNIX	4/65
CNWL	201 Cisco Fundamentals of Wireless LANs	5/85
WACT	210 Modulation Principles	3/50
WACT	211 Transmitters & Receivers	3/50
WACT	212 Transmission Techniques	3/50
WACT	213 Data Communications Technologies	3/50
WACT	231 Telecommunications, Network Cabling Systems	5/80
WACT	235 Fiber Optics	5/85
WACT	236 RF Communications	4/65
WACT	237 Telecommunication Technologies	7/115
WACT	246 FCC Licensure Prep I	4/65
WACT	247 FCC Licensure Prep II	6/100
WACT	251 Intro to Wireless Communications	3/50
WACT	252 Wired, Wireless Networks	4/66
WACT	253 Cellular/RF/Mobile Communications	4/66
WACT	254 Wireless LAN & Broadband Networks	4/66
WACT	255 Satellite & Advanced Wireless Communications	4/66

##### General Education Requirements

	<u>Credits</u>
90-level or> Human Relations – HREL, PSYCH, SOC or CMST	3
90-level or> Communications – ENGL or CMST	3
90-level or> Mathematics – MATH	3
CMPL 111 Basic Applications	3

90-level credit units apply toward meeting certificate requirements, but do not apply toward degree requirements.

After completion of required general education, industry-specific and major competencies, students may choose any combination of electives from the following programs:  
 Wireless Voice & Data Communications; Computer Networking Systems Technician; Information Technologies Specialist; Electrical Power & Process Automation.