

Chapter Four • Degree and Certificate Programs

Accounting

www.bates.ctc.edu/Accounting

Accounting is the process that summarizes economic information about a business entity for use by decision makers. Users of this information include investors, creditors, management and government agencies. The accounting program at Bates Technical College provides training in many types of accounting; such as financial, managerial, payroll, individual taxation and governmental accounting. Graduates are prepared for careers as accounting clerks, full charge bookkeepers, tax preparers, and small business accountants. General Education courses provide training in understanding diversity in the workplace, effective oral and written communication and human relations skills.

FACULTY

Dave Alldredge

Associate in Applied Science: 90 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
ENGL&	101	English Composition I	5
100+	Level	Human Relations ¹	5
100+	Level	Humanities ²	5
100+	Level	Mathematics ³	5

REQUIRED ACCOUNTING COURSEWORK			CREDITS
ACCT&	201	Principles of Accounting I ⁷	5
ACCT&	202	Principles of Accounting II	5
ACCT&	203	Principles of Accounting III	5
ACCT	205	Excel for Accounting	5
ACCT	207	QuickBooks	5
ACCT	220	Payroll Accounting	5
ACCT	225	Federal Income Tax	5
ACCT	230	Governmental Accounting	5
ACCT	235	Intermediate Accounting Topics	5

REQUIRED BUSINESS COURSEWORK			CREDITS
BUS&	101	Intro to Business	5
BUS&	201	Business Law	5
BA	217	Business Communication	5
ECON&	201	Microeconomics	5
INFO	101	Computer Application Essentials	5

Certificate of Competency: 45 Credits

Bookkeeping

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations ⁴	5
90+	Level	Humanities ⁵	5
90+	Level	Mathematics ⁶	5

REQUIRED ACCOUNTING COURSEWORK			CREDITS
ACCT&	201	Principles of Accounting I	5
ACCT&	202	Principles of Accounting II	5
ACCT	205	Excel for Accounting	5
ACCT	207	QuickBooks	5
ACCT	220	Payroll Accounting	5

REQUIRED BUSINESS COURSEWORK			CREDITS
INFO	101	Computer Application Essentials	5

¹recommend HREL 111 Interviewing/Promoting

²recommend CMST& 210 Interpersonal Communications

³recommended MATH& 146 Statistics

⁴recommend HREL 111 Interviewing/Promoting

⁵recommend ENGL 091 Integrated Reading & Writing II

⁶recommended MATH 092 Elementary Algebra

⁷MATH 092 must be completed/test out prior to program start

Administrative Medical Assistant

www.bates.ctc.edu/AMA

Students prepare for careers as integral members of a health care team in an outpatient setting. Competency-based activities in the program provide extensive hands-on practice for students in the use of computer application skills to create and handle medical information. Medical transcription, Electronic health records, medical terminology, patient administrative services, and professional ethics are presented with emphasis on the billing procedures of the insurance industry. The program also provides extended learning opportunities for persons previously or currently employed in related professions. In addition, work-based learning experiences are available in many medical settings that support the theory presented in the classroom.

Note: Students must possess basic keyboarding/word processing skills prior to enrollment in the program.

Applicants must:

1. Possess basic keyboarding/word processing skills prior to enrollment in the program, and
2. Pass a clear national criminal background check covering Washington state.

Faculty

Mary Ann Keith

Associate in Applied Science: 101-103 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
100+Level	Human Relations	5
100+Level	Communications	5
100+Level	Mathematics	5

REQUIRED COURSEWORK		CREDITS
AMA 110	Computer Basics	1
AMA 111	Introduction to Word Processing	3
AMA 112	Fundamentals of Medical Terminology	4
AMA 113	Business Communications	5
AMA 114	Introduction to the Health Care Profession	5
AMA 115	Digital Medical Transcription	3
AMA 116	Medical Office Procedures	3
AMA 117	Beginning Medical Terminology	4
AMA 118	Administrative Medical Concepts	4
AMA 119	Advanced Medical Office Procedures	3
AMA 120	Introduction to Spreadsheets	3
AMA 121	Intermediate Medical Terminology	4
AMA 122	Intermediate Administrative Medical Concepts	4
AMA 123	Electronic Health Records	4
AMA 124	First Aid/CPR	1
AMA 125	Practice Management System Applications	2
AMA 126	Advanced Administrative Medical Concepts	4
AMA 127	Medical Insurance	4
AMA 128	Advanced Medical Terminology	4
AMA 129	Medical Coding Applications	4
AMA 130	Medical Office Supervision and Management	3
AMA 131	Interview Techniques	3
AMA 132	Phlebotomy	3
AMA 133	HIV Prevention Education	1
AMA 134	Healthcare Credentialing	2
AMA 135	Practical Applications	5
	or	
AMA 296	Work-based Learning Experience AND	2
AMA 297	Work-based Learning Seminar	1
	or	
AMA 298	Work-Based Learning – No Seminar	2

Certificate of Competency: 76 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
AMA 110	Computer Basics		1
AMA 111	Introduction to Word Processing		3
AMA 112	Fundamentals of Medical Terminology		4
AMA 113	Business Communications		5
AMA 114	Introduction to the Health Care Profession		5
AMA 115	Digital Medical Transcription		3
AMA 116	Medical Office Procedures		3
AMA 117	Beginning Medical Terminology		4
AMA 119	Advanced Medical Office Procedures		3
AMA 118	Administrative Medical Concepts		4
AMA 120	Introduction to Spreadsheets		3
AMA 121	Intermediate Medical Terminology		4
AMA 122	Intermediate Administrative Medical Concepts		4
AMA 123	Electronic Health Records		4
AMA 124	First Aid/CPR		1
AMA 125	Practice Management System Applications		2
AMA 127	Medical Insurance		4
AMA 128	Advanced Medical Terminology		4

Administrative Office Assistant

www.bates.ctc.edu/AOA

Students learn records management, grammar, business writing, professional ethics, and telephone techniques in preparation for jobs as office assistants, administrative assistants, secretaries, word processing specialists, and a variety of other office support positions. Students receive practical experience in several areas, including computer software technology, office procedures and accounting, and often gain work-based learning experience in temporary internships at local businesses or in residence at the college. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

FACULTY

Sharon Netter

Associate in Applied Science: 93Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
AOA	102	Professional Office Procedures	5
AOA	103	Telecommunications	1
AOA	105	Keyboarding I	5
AOA	106	MS Windows	1
AOA	108	Records Management	4
AOA	109	Business Ethics	2
AOA	110	MS Word I	5
AOA	111	MS Outlook	2
AOA	112	Business Grammar I	1
AOA	120	Keyboarding II	5
AOA	121	MS Word II	5
AOA	123	Business Documentation	5
AOA	124	Business Presentations	3
AOA	126	Business Grammar II	1
AOA	132	Business Grammar III	1
AOA	240	Capstone Project	2
AOA	202	Business Grammar IV	1
AOA	203	MS Excel I	5
AOA	204	MS PowerPoint	3
AOA	205	MS Access I	3
AOA	206	Voice Recognition Software	2
AOA	207	Business Grammar V	1
AOA	217	Business Grammar VI	1
AOA	223	MS Excel II	5
AOA	224	Desktop Publishing	3
AOA	225	MS Access II	3
AOA	234	Employment Preparation	1
AOA	291	Practical Applications*	2

*This course may be substituted with a work-based learning component

Certificate of Competency: 59 Credits

BASIC OFFICE SUPPORT

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

REQUIRED COURSEWORK			CREDITS
AOA	102	Professional Office Procedures	5
AOA	103	Telecommunications	1
AOA	105	Keyboarding I	5
AOA	106	MS Windows	1
AOA	108	Records Management	4
AOA	109	Business Ethics	2
AOA	110	MS Word I	5
AOA	111	MS Outlook	2
AOA	120	Keyboarding II	5
AOA	126	Business Grammar I	1
AOA	123	Business Documentation	5
AOA	126	Business Grammar II	1
AOA	132	Business Grammar III	1
AOA	202	Business Grammar IV	1
AOA	203	MS Excel I	5

Certificate of Training: 19 Credits

OFFICE FUNDAMENTALS

REQUIRED COURSEWORK			CREDITS
AOA	101	Professional Communications	1
AOA	105	Keyboarding I	5
AOA	111	MS Outlook	2
AOA	110	MS Word I	5
AOA	203	MS Excel I	5
AOA	234	Employment Preparation	1

Architectural Woodworking/Cabinet Making Technology

www.bates.ctc.edu/Woodworking

Students prepare for careers in cabinet making and millwork crafts, in positions such as wood pattern maker, cabinet maker, door assembler, solid surface fabricator, cabinet and millwork installer, project manager, sander, utility worker, wood pattern maker and machine operator. Shop activities are an integral part of the program and provide training and practical applications in complex joinery, finishing, and installation. Students work with wood and high-tech laminates, perform component design and fabrication, and learn the use of tools and equipment. This is a pre-apprenticeship program for the Seattle/Tacoma Millmen and Cabinet Makers Apprenticeship Committee. This program also provides extended learning opportunities for persons previously or currently employed in these and other related occupations.

FACULTY

Steve Dziedziak

Associate in Applied Science: 112 Credits

GENERAL EDUCATION REQUIREMENTS

		CREDITS
100+ Level	Human Relations	5
100+ Level	Communication	5
100+ Level	Mathematics	5

REQUIRED COURSEWORK

		CREDITS
ARWC 101	Introduction to Cabinetmaking	3
ARWC 102	Safety Principles	4
ARWC 103	Cabinetry Blueprints/Plans	4
ARWC 104	Materials	2
ARWC 105	Machine Tools I	4
ARWC 106	Machine Tools II	4
ARWC 107	Machine Tools \CNC	3
ARWC 108	Portable Power Tools	3
ARWC 109	Hand Tools	3
ARWC 110	Basic Cabinet Joinery	4
ARWC 111	Tool Maintenance/Sharpening	3
ARWC 112	Cabinetmaking/ Face Frame Construction I	4
ARWC 113	Cabinetmaking/ Face Frame Construction II	4
ARWC 114	Cabinetmaking/32mm System	3
ARWC 115	Finishing Methods I	3
ARWC 116	Drawers and Doors	2
ARWC 117	Laminates / Countertops /Solid Surface	3
ARWC 118	Occupational Math	3
ARWC 119	Jigs and Fixtures	2
ARWC 120	Cabinetmaking/Commercial Construction	3
ARWC 201	Wood Bending/Lamination Techniques	3
ARWC 202	Architectural Millwork	3
ARWC 203	Beginning Furniture Projects	5
ARWC 204	Cabinet Installation- Residential/Commercial	4
ARWC 205	Advanced Joinery	4
ARWC 206	Cabinetmaking Computer Technology	4
ARWC 207	Veneering Technology	2
ARWC 208	Employment Preparation	3
ARWC 209	Advanced Projects *	5

*This course may be substituted with a work-based learning component.

Certificate of Competency: 79 Credits

PRODUCTION CABINET MAKING

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
ARWC 101	Introduction to Cabinetmaking		3
ARWC 102	Safety Principles		4
ARWC 103	Cabinetry Blueprints/Plans		4
ARWC 104	Materials		2
ARWC 105	Machine Tools I		4
ARWC 106	Machine Tools II		4
ARWC 107	Machine Tools \CNC		3
ARWC 108	Portable Power Tools		3
ARWC 109	Hand Tools		3
ARWC 110	Basic Cabinet Joinery		4
ARWC 111	Tool Maintenance/Sharpening		3
ARWC 112	Cabinetmaking/ Face Frame Construction I		4
ARWC 113	Cabinetmaking/ Face Frame Construction II		4
ARWC 114	Cabinetmaking/32mm System		3
ARWC 115	Finishing Methods I		3
ARWC 116	Drawers and Doors		2
ARWC 117	Laminates / Countertops /Solid Surface		3
ARWC 118	Occupational Math		3
ARWC 119	Jigs and Fixtures		2
ARWC 120	Cabinetmaking/Commercial Construction		3

Auto Body Rebuilding & Refinishing

www.bates.ctc.edu/AutoBody

Students prepare for apprenticeship employment in the auto body rebuilding and refinishing industry, serving independent auto shops, automotive dealerships, government agencies, utility firms, and other companies that maintain vehicle fleets. Positions include auto body repairer, automotive refinisher, frame repairer, glass installer, painter, renovator, and shop estimator. Upon successful completion of the program, students can qualify to take the I-CAR steel welding qualification test. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

FACULTY

Joe Brewer, Doug Yarbrough

Associate in Applied Science: 116 Credits

GENERAL EDUCATION REQUIREMENTS

		CREDITS
100+	Level Human Relations	5
100+	Level Communications	5
100+	Level Mathematics	5

REQUIRED COURSEWORK

		CREDITS
AUTOB 101	Auto Body Math Applications	3
AUTOB 102	Safety Principles	3
AUTOB 103	Materials Identification	3
AUTOB 104	Minor Body Repair Methods	5
AUTOB 105	Major Panel Replacement	5
AUTOB 106	Alignment – Sheet Metal	5
AUTOB 107	Alignment – Bumpers	3
AUTOB 108	Alignment – Head Lamps	1
AUTOB 109	Trim and Accessories	3
AUTOB 110	Window Mechanisms	4
AUTOB 111	Introduction to Surface Preparation	2
AUTOB 112	Surface Preparation Applications	5
AUTOB 113	Advanced Surface Preparations	5
AUTOB 201	Topcoat Systems	5
AUTOB 202	Topcoat Systems Applications	5
AUTOB 203	Shop Welding	5
AUTOB 204	Unibody Alignment	5
AUTOB 205	Body Over Frame Alignment	4
AUTOB 206	Glass Installation	4
AUTOB 207	Introduction to Plastic Repair	2
AUTOB 208	Plastic Repair Methods	5
AUTOB 209	Shop Management	3
AUTOB 210	Introduction to Estimating	4
AUTOB 211	Special Projects *	4
WBAS 101	Welding Basics	8

*This course may be substituted with a work-based learning component.

Certificate of Competency: 116 Credits

AUTO BODY REPAIR

GENERAL EDUCATION REQUIREMENTS

		CREDITS
90+	Level Human Relations	5
90+	Level Communications	5
90+	Level Mathematics	5

REQUIRED COURSEWORK

		CREDITS
AUTOB 101	Auto Body Math Applications	3
AUTOB 102	Safety Principles	3
AUTOB 103	Materials Identification	3
AUTOB 104	Minor Body Repair Methods	5
AUTOB 105	Major Panel Replacement	5
AUTOB 106	Alignment n Sheet Metal	5
AUTOB 107	Alignment n Bumpers	3
AUTOB 108	Alignment n Head Lamps	1
AUTOB 109	Trim and Accessories	3
AUTOB 110	Window Mechanisms	4
AUTOB 111	Introduction to Surface Preparation	2
AUTOB 112	Surface Preparation Applications	5
AUTOB 113	Advanced Surface Preparations	5
AUTOB 201	Topcoat Systems	5
AUTOB 202	Topcoat Systems Applications	5
AUTOB 203	Shop Welding	5
AUTOB 204	Unibody Alignment	5
AUTOB 205	Body Over Frame Alignment	4
AUTOB 206	Glass Installation	4
AUTOB 207	Introduction to Plastic Repair	2
AUTOB 208	Plastic Repair Methods	5
AUTOB 209	Shop Management	3
AUTOB 210	Introduction to Estimating	4
AUTOB 211	Special Projects *	4
WBAS 101	Welding Basics	8

*This course may be substituted with a work-based learning component.

Certificate of Training: 20 Credits

AUTOMOTIVE REFINISHING

REQUIRED COURSEWORK

		CREDITS
AUTOB 102	Safety Principles	3
AUTOB 111	Introduction to Surface Preparation	2
AUTOB 112	Surface Preparation Applications	5
AUTOB 201	Topcoat Systems	5
AUTOB 202	Topcoat Systems Applications	5

Automotive Technology

www.bates.ctc.edu/AutoMechanic

In an active, campus auto service facility, students practice all aspects of the profession, from balancing tires to diagnosing engine problems. Using advanced computerized analyzers, students learn to perform repairs, overhaul engines and transmissions, service fuel injection systems, and much more. Bates' automotive program is certified by the National Automotive Technicians Education Foundation (NATEF) for both secondary and post-secondary levels. Bates' Automotive Mechanic program instructors are Evaluation Team Leaders for NATEF and evaluate other programs in the Puget Sound area for NATEF membership eligibility. Instruction is configured according to Automotive Service Excellence (ASE) certification requirements, and students are encouraged to take one or more ASE certification tests while completing the program.

FACULTY

Mike Clark

Associate in Applied Science: 142 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
AUTOM	101	Basic Engines	4
AUTOM	102	Engine Systems	4
AUTOM	103	Basic Electrical Theory	4
AUTOM	105	Engines/Electrical Applications	3
AUTOM	106	Shop Safety and Meter Certification	1
AUTOM	121	Basic Engine Performance	5
AUTOM	122	Basic Ignition Systems	5
AUTOM	123	Introduction to Fuel Systems	4
AUTOM	124	Introduction to Emissions Systems	2
AUTOM	125	Introduction to Fuel Injection	2
AUTOM	130	Introduction to Lighting and Instruments	4
AUTOM	131	Introduction to Clutches and Manual Transmissions	4
AUTOM	132	Automatic Transmissions/Transaxles	4
AUTOM	133	Four and All-wheel Drive	4
AUTOM	140	Wheel Alignment and Steering Systems	4
AUTOM	141	Brake Systems	4
AUTOM	142	Disc and Drum Brakes	4
AUTOM	143	Heating and Air Conditioning Systems	4
AUTOM	201	Advanced Engine Repair	5
AUTOM	202	Engine Assembly	3
AUTOM	203	Automotive Electrical Systems	4
AUTOM	204	Battery, Starters, and Charging Systems	4
AUTOM	220	Ignition Systems Service	4
AUTOM	221	Fuel Systems Service	4
AUTOM	222	Emissions Systems Service	3
AUTOM	223	Fuel Injection	3
AUTOM	230	Lighting and Instrument Service	3
AUTOM	231	Clutches and Manual Transmission Service	5
AUTOM	232	Automatic Transmission and Transaxle Service	4
AUTOM	233	Four and All-Wheel Drive Service	4
AUTOM	240	Advanced Wheel Alignment and Steering Systems Service	4
AUTOM	241	Advanced Brake Service	4
AUTOM	242	Advanced Disc and Drum Brake Service	4
AUTOM	243	Applied HVAC Service	3

Automotive Mechanic Certificates of Training

These certificates correspond to the requirements of the Automotive Service Excellence (ASE) requirements. Students are encouraged to take one or more ASE certification tests so that they may qualify as ASE-certified technicians.

Certificate of Training, Engine Repair: 16 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	105	Basic Engines	4
AUTOM	106	Engine Systems	4
AUTOM	206	Advanced Engine Repair	5
AUTOM	207	Engine Assembly	3

Certificate of Training, Automatic Transmission and Transaxle: 6 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	209	Automatic Transmissions/Transaxles	6

Certificate of Training, Manual Drive Train and Axles: 12 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	208	Clutches and Manual Transmissions	6
AUTOM	210	Four and All-wheel Drive	6

Certificate of Training, Suspension and Steering: 6 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	211	Wheel Alignment and Steering Systems	6

Certificate of Training, Brakes: 10 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	212	Brake Systems	4
AUTOM	213	Disc and Drum Brakes	6

Certificate of Training, Electrical/Electronic Systems: 19 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	107	Basic Electrical Theory	4
AUTOM	108	Automotive Electrical Systems/Applications	6
AUTOM	111	Lighting and Instruments	5
AUTOM	112	Battery, Starters, and Charging Systems	4

Certificate of Training, Heating and Air Conditioning: 5 Credits

REQUIRED COURSEWORK			CREDITS
AUTOM	214	Heating and Air Conditioning Systems	5

Certificate of Training I - Engine Performance I: 11 Credits*

REQUIRED COURSEWORK			CREDITS
AUTOM	109	Basic Engine Performance	5
AUTOM	110	Ignition Systems	6

*Students must complete both Engine Performance I and Engine Performance II in order to receive ASE Certification A-8.

Certificate of Training I - Engine Performance II: 14 Credits*

REQUIRED COURSEWORK			CREDITS
AUTOM	113	Fuel Systems	6
AUTOM	114	Emissions Systems	4
AUTOM	205	Fuel Injection	4

*Students must complete both Engine Performance I and Engine Performance II in order to receive ASE Certification A-8.

Automotive Parts/Inventory/ Warehousing

www.bates.ctc.edu/AutoParts

Instruction takes place in a warehouse environment and in a fully-operational vehicle parts and accessories store open to the general public, giving students the opportunity to gain hands-on experience in inventory merchandise, wholesale and retail customers and working with vehicle parts vendors. Employment opportunities may include inventory and stock specialist, vehicle parts counter person, warehouse and distribution specialist, inventory clerk, shipping and receiving clerk, shipping documentation specialist, stock merchandiser, procurement specialist, counter and accessories sales, parts managers, materials movement worker, forklift operator, order puller and loading dock worker.

FACULTY

Jeff Lovin

Certificate of Competency: 65 Credits

REQUIRED COURSEWORK			CREDITS
VPM	101	Applied Math	40
VPM	106	Material Movement	2
VPM	107	Storage and Distribution	5
VPM	108	Shipping and Receiving	5
VPM	109	Introduction to Vehicle Parts Merchandising	5
VPM	110	Principles of Inventory Control	5
VPM	112	Stock/Product Order	4
VPM	115	Principles of Salesmanship	5
VPM	116	Retail Point of Sale	3
VPM	119	Principles of Management	5
VPM	120	Employment Preparation	3
VPM	121	Retail Applications*	3
VPM	122	Warehouse Applications*	3
VPM	123	Stock Merchandising	3
VPM	124	Automotive Parts Systems	4
VPM	125	Product Research Systems	4
VPM	126	Returns, Exchanges, and POs	2

*This course may be substituted with a work-based learning component.

Certificate of Training: 17 Credits

INVENTORY/STOCK SPECIALIST REQUIRED COURSEWORK			CREDITS
VPM	109	Introduction to Vehicle Parts Merchandising	5
VPM	110	Principles of Inventory Control	5
VPM	112	Stock/Product Order	4
VPM	123	Stock Merchandising	3

Certificate of Training: 29 Credits

VEHICLE PARTS COUNTER PERSON REQUIRED COURSEWORK			CREDITS
VPM	109	Introduction to Vehicle Parts Merchandising	5
VPM	116	Retail Point of Sale	3
VPM	119	Principles of Management	5
VPM	120	Employment Preparation	3
VPM	121	Retail Applications*	3
VPM	124	Automotive Parts Systems	4
VPM	125	Product Research Systems	4
VPM	126	Returns, Exchanges, and POs	2

*This course may be substituted with a work-based learning component.

Certificate of Training: 24 Credits

WAREHOUSE/DISTRIBUTION SPECIALIST REQUIRED COURSEWORK			CREDITS
VPM	101	Applied Math	4
VPM	106	Material Movement	2
VPM	107	Storage and Distribution	5
VPM	108	Shipping and Receiving	5
VPM	109	Introduction to Vehicle Parts Merchandising	5
VPM	122	Warehouse Applications*	3

*This course may be substituted with a work-based learning component.

Barber

www.bates.ctc.edu/Barber

www.bates.ctc.edu/BarberShop

Bates Technical College has the only college barber program in the State of Washington in which students prepare to become licensed barbers while learning in a stand-alone program and working in an on-campus shop that serves the public. Students are evaluated on the performance of each competency of the curriculum to ensure readiness to meet state licensure requirements and enter the profession. Prior to program completion, each student must take and pass a comprehensive written and practical examination that includes theoretical concepts. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

Note: The minimum age for licensure as a barber in the State of Washington is 17 years of age.

FACULTY

Jeff Olson

Certificate of Competency: 75 Credits

REQUIRED COURSEWORK		CREDITS
BARB 110	Barbering Theory	1
BARB 111	Scalp and Hair Analysis	2
BARB 112	Shampooing	3
BARB 113	Decontamination and Infection Control	5
BARB 114	Introduction to Barbering	5
BARB 115	Safety/First Aid	2
BARB 116	Basic Haircutting Techniques	4
BARB 117	Customer Service	3
BARB 118	Applied Communications	3
BARB 120	Math for Barbers	3
BARB 121	Facial Hair	5
BARB 122	Barbering Applications	5
BARB 123	Intermediate Haircutting Techniques	3
BARB 124	Haircutting Applications	5
BARB 125	Applied Human Relations	3
BARB 131	Advanced Techniques	4
BARB 132	Advanced Applications	4
BARB 133	Cutting and Styling Methods	4
BARB 134	Cutting and Styling Applications	5
BARB 135	Hair Styling	2
BARB 136	Artificial Hair Services	2
BARB 137	Practical Applications*	2

*This course may be substituted with a work-based learning component.

Biomedical Equipment Service Technician: Clinical Engineering

www.bates.ctc.edu/Biomedical

Health care, the largest industry in the country, employs more than 14 million people, and figures continue to mount. From small-town private practices to mammoth inner-city hospitals, health care workers are in high demand. The patients in those practices and hospitals depend not only on the expertise of doctors and nurses, but on the proper functioning of sophisticated biomedical equipment. The people responsible for repairing and maintaining these highly specialized machines and instruments such as defibrillators, heart monitors, electric wheelchairs, medical imaging equipment (x rays, CAT scanners, and ultrasound equipment), are biomedical service technicians. They inspect and install equipment used by doctors, nurses, and other healthcare providers for researching, monitoring, diagnosing, and treating illnesses and disorders. They also repair, calibrate, and safety test the equipment in order to ensure proper function and safety for both the operator and the patient.

FACULTY

Art Cutting, Franklin Hsu

Associate in Applied Science: 118 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
BMST	101	Safety Principles	4
BMST	102	Blood borne Pathogens	3
BMST	103	HIPAA	2
BMST	104	Applied Math	4
EEST	103	Electronics Principles I	5
EEST	104	DC Electronics	4
EEST	105	AC Electronics	5
EEST	106	Capacitors	4
EEST	107	Electronics Principles II	5
EEST	108	Amplifiers and Transistors	4
EEST	109	Electronic Devices	2
EEST	110	Introduction to Programmable Logic Controllers	5
EEST	201	Electronic Principles - Automation	5
EEST	202	Antenna and Satellite Systems	3
EEST	203	Magnetic and Laser Media	3
EEST	204	RF Receivers and Audio Amps	4
BMST	105	Testing Equipment	5
BMST	106	Soldering	2
BMST	107	Schematics	3
BMST	109	Applied Service I	3
BMST	110	Applied Service II	2
BMST	201	Imaging Systems	3
BMST	204	Basic A&P for Biomedical Technology	4
BMST	215	Introduction to Medical Terminology	3
BMST	217	Biomedical Instrumentation	5
BMST	218	Biomedical Equipment	3
BMST	219	Medical Equipment Research II	3
BMST	220	Biomedical Engineering Applications *	5
		OR	5
BMST	298	Work-based Learning – No Seminar	

Broadcasting/Video Production

www.bates.ctc.edu/Broadcasting

The broadcasting curriculum has been examined by and meets the requirements of the Society of Broadcast Engineers (SBE). Students are encouraged to test for the SBE certification upon completion of the program. Three options are offered:

Broadcast Operations includes on-air master control, content storage, playback operations, and editing; satellite downlink operations; operations/systems technician; automation technician; and VIS (visual information specialist).

Broadcast Engineering includes transmitter/microwave operations; video server/non-linear editing; technical training to support electronic news, sports, and field productions; transcoding and compression systems; broadcast equipment installation, maintenance, operation; and the technical training to support electronic news, sports and field productions.

Video Production includes planning and script development; lighting; set design and construction; camera operation; sound mixing; technical directing; content editing; graphics generation; and equipment training to support studio and remote production.

FACULTY

Roland Robinson, Ken Witkoe

Associate in Applied Science Degrees: 104-108 Credits

GENERAL EDUCATION REQUIREMENTS

		CREDITS
100+	Level Human Relations	5
100+	Level Communications	5
100+	Level Mathematics	5

PROGRAM CORE COURSES (3 of 4 sets and electives are required)

SET	CORE COURSE	CREDITS
SET 1	CORE ENGINEERING	
	BROAD 103 Safety and First Aid	2
	BROAD 105 Broadcast Electronics Theory	3
	BROAD 106 Applied Electronics	3
	BROAD 107 Electronic Concepts	3
BROAD 108 Electronic Principles	3	
SET 2	CORE OPERATIONS	
	BROAD 111 Master Control Operations 1	5
	BROAD 118 Control Room Equipment I	3
	BROAD 119 Basic Maintenance and Troubleshooting	3
BROAD 123 Introduction to Broadcast Systems	3	
SET 3	CORE PRODUCTION	
	BROAD 121 Production Process Theory	3
	BROAD 127 Production Editing I	3
	BROAD 114 Introduction to Studio and Field Production	3
BROAD 116 Principles of Lighting	3	
SET 4	CORE AUDIO	
	BROAD 109 Characteristics of Sound	3
	BROAD 120 Introduction to Digital Recording	5
	BROAD 113 Studio Acoustics	3
BROAD 112 Basic Audio Equipment	3	
ELECTIVES		15

PROGRAM ADVANCED COURSES (one advanced option is required):

ADVANCED ENGINEERING	CREDITS
BROAD 201 Analog Systems I	3
BROAD 202 Advanced Broadcast Formats	3
BROAD 203 Introduction to Digital Systems	2
BROAD 209 AC/DC Circuits	5
BROAD 210 AC/DC Applications	4
BROAD 217 Audio Engineering	5
BROAD 219 Video Engineering	4
BROAD 285 Practicum I *	5
ELECTIVES	3-5

ADVANCED OPERATIONS

BROAD 221 Satellite Communications	2
BROAD 223 Systems Maintenance	5
BROAD 231 Broadcast Station Operations	5
BROAD 237 Control Room Equipment II	5
BROAD 243 Master Control Operations II	5
BROAD 248 Network Storage and Control	4
BROAD 286 Practicum II *	5
ELECTIVES	3-5

ADVANCED PRODUCTION

BROAD 251 Introduction to the TV Process	3
BROAD 252 TV Production Applications	5
BROAD 239 Production Audio Preparation	5
BROAD 255 Lighting Techniques	5
BROAD 260 Studio Camera Equipment	3
BROAD 262 Set Design	3
BROAD 267 Production Editing II	2
BROAD 287 Practicum III *	5
ELECTIVES	3-5

CERTIFICATE OF COMPETENCY

BROADCAST AND VIDEO ELEMENTS: 70-72 CREDITS

GENERAL EDUCATION REQUIREMENTS	CREDITS
90+ Level Human Relations	5
90+ Level Communications	5
90+ Level Mathematics	5

PROGRAM COURSEWORK (3 of 4 sets and electives are required)

SET	CORE COURSE	CREDITS
SET 1	CORE ENGINEERING	
	BROAD 103 Safety and First Aid	2
	BROAD 105 Broadcast Electronics Theory	3
	BROAD 106 Applied Electronics	3
	BROAD 107 Electronic Concepts	3
BROAD 108 Electronic Principles	3	
SET 2	CORE OPERATIONS	
	BROAD 111 Master Control Operations 1	5
	BROAD 118 Control Room Equipment I	3
	BROAD 119 Basic Maintenance and Troubleshooting	3
BROAD 123 Introduction to Broadcast Systems	3	
SET 3	CORE PRODUCTION	
	BROAD 121 Production Process Theory	3
	BROAD 127 Production Editing I	3
	BROAD 114 Introduction to Studio and Field Production	3
BROAD 116 Principles of Lighting	3	

Broadcasting/Video Production (continued)

SET 4	CORE AUDIO		CREDITS
	BROAD 109	Characteristics of Sound	3
	BROAD 120	Introduction to Digital Recording	5
	BROAD 113	Studio Acoustics	3
	BROAD 112	Basic Audio Equipment	3
	ELECTIVES		15

CERTIFICATES OF TRAINING**BVP ENGINEERING CORE: 14 CREDITS**

		CREDITS
BROAD 103	Safety and First Aid	2
BROAD 105	Broadcast Electronics Theory	3
BROAD 106	Applied Electronics	3
BROAD 107	Electronic Concepts	3
BROAD 108	Electronic Principles	3

BVP OPERATIONS CORE: 14 CREDITS

BROAD 111	Master Control Operations 1	5
BROAD 118	Control Room Equipment I	3
BROAD 119	Basic Maintenance and Troubleshooting	3
BROAD 123	Introduction to Broadcast Systems	3

BVP PRODUCTION CORE: 12 CREDITS

BROAD 121	Production Process Theory	3
BROAD 127	Production Editing I	3
BROAD 114	Introduction to Studio and Field Production	3
BROAD 116	Principles of Lighting	3

BVP AUDIO CORE: 14 CREDITS

BROAD 109	Characteristics of Sound	3
BROAD 120	Introduction to Digital Recording	5
BROAD 113	Studio Acoustics	3
BROAD 112	Basic Audio Equipment	3

ELECTIVES LIST

		CREDITS
BROAD 117	Program Editing I	3
BROAD 125	Record & Playback Devices	3
BROAD 126	Elements of Audio I	3
BROAD 129	Audio Techniques	4
BROAD 204	Introduction to Operating Systems	3
BROAD 205	Receivers/Transmitters	5
BROAD 206	Power and Communication Systems	3
BROAD 207	Advanced Editing Projects	5
BROAD 215	ATSC Formats and Transcoding	2
BROAD 227	DTV Trans-Systems /8VSB	4
BROAD 229	Compression MPEG-II & AC-3	2
BROAD 247	Program Editing II	5
BROAD 254	Principles of Lighting	5
BROAD 265	Field Production	7
BROAD 273	Video Graphics Applications	5
BROAD 276	Technical Directing I	6
BROAD 283	Emerging Technologies	3
BROAD 288	Practicum IV *	5
BROAD 289	Practicum V *	5
BROAD 290	Practicum VI *	5

Students may receive elective credits for Digital Media classes. See the Digital Media instructor for classes offered.

Carpentry

www.bates.ctc.edu/Carpentry

Students prepare for apprenticeship employment in the construction industry, filling positions such as carpenter, framer, concrete worker, and interior and exterior finisher. Off-campus building and remodeling projects provide opportunities for extensive practical training, giving students valuable experience in the trade, from estimating construction projects through all phases of construction. This is a pre-apprenticeship program for the South Puget Sound Carpenters Joint Apprenticeship Training Committee.

FACULTY

Chris Buselmeier

Associate in Applied Science: 116 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
100+	Level Human Relations	5
100+	Level Communications	5
100+	Level Mathematics	5

REQUIRED COURSEWORK		CREDITS
CARPT 101	Carpentry Math	3
CARPT 102	Safety Principles	3
CARPT 103	Prints and Plans	4
CARPT 104	Construction Materials	2
CARPT 105	Tools and Equipment	4
CARPT 106	Power Tools	5
CARPT 107	Optical Instruments	3
CARPT 108	Plot Plans and Building Layout	3
CARPT 109	Introduction to Framing	4
CARPT 110	Foundation	3
CARPT 111	Foundation Footings	3
CARPT 112	Foundation Walls	5
CARPT 201	Floor Systems	5
CARPT 202	Wall and Ceiling Construction	5
CARPT 203	Stairs	3
CARPT 204	Introduction to Roofing	3
CARPT 205	Roof Construction	5
CARPT 206	Introduction to Exterior Finish Methods	4
CARPT 207	Exterior Doors and Windows	5
CARPT 208	Siding	5
CARPT 209	Introduction to Interior Finish Methods	3
CARPT 210	Interior Floors, Walls, and Ceilings	4
CARPT 211	Interior Doors and Windows	5
CARPT 213	Employment Preparation	2
CARPT 215	Practical Applications*	2
WBAS 101	Welding Basics	8

*This course may be substituted with a work-based learning component.

Certificate of Competency: 116 Credits

CARPENTRY TECHNICIAN

GENERAL EDUCATION REQUIREMENTS		CREDITS
90+	Level Human Relations	5
90+	Level Communications	5
90+	Level Mathematics	5

REQUIRED COURSEWORK		CREDITS
CARPT 101	Carpentry Math	3
CARPT 102	Safety Principles	3
CARPT 103	Prints and Plans	4
CARPT 104	Construction Materials	2
CARPT 105	Tools and Equipment	4
CARPT 106	Power Tools	5

REQUIRED COURSEWORK		CREDITS
CARPT 107	Optical Instruments	3
CARPT 108	Plot Plans and Building Layout	3
CARPT 109	Introduction to Framing	4
CARPT 110	Foundation	3
CARPT 111	Foundation Footings	3
CARPT 112	Foundation Walls	5
CARPT 201	Floor Systems	5
CARPT 202	Wall and Ceiling Construction	5
CARPT 203	Stairs	3
CARPT 204	Introduction to Roofing	3
CARPT 205	Roof Construction	5
CARPT 206	Introduction to Exterior Finish Methods	4
CARPT 207	Exterior Doors and Windows	5
CARPT 208	Siding	5
CARPT 209	Introduction to Interior Finish Methods	3
CARPT 210	Interior Floors, Walls, and Ceilings	4
CARPT 211	Interior Doors and Windows	5
CARPT 213	Employment Preparation	2
CARPT 292	Independent Projects	2
WBAS 101	Welding Basics	8

*This course may be substituted with a work-based learning component.

Carpentry (cont'd)

Certificates of Training

BASIC CARPENTRY I: 16 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	101 Carpentry Math	3
CARPT	102 Safety Principles	3
CARPT	103 Prints and Plans	4
CARPT	104 Construction Materials	2
CARPT	105 Tools and Equipment	4

BASIC CARPENTRY II: 16 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	106 Power Tools	5
CARPT	107 Optical Instruments	3
WBAS	101 Welding Basics	8

CONCRETE FOUNDATIONS: 14 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	108 Plot Plans and Building Layout	3
CARPT	110 Foundation	3
CARPT	111 Foundation Footings	3
CARPT	112 Foundation Walls	5

WOOD FRAMING: 22 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	109 Introduction to Framing	4
CARPT	201 Floor Systems	5
CARPT	202 Wall and Ceiling Construction	5
CARPT	203 Stairs	3
CARPT	205 Roof Construction	5

EXTERIOR FINISHING: 17 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	204 Introduction to Roofing	3
CARPT	206 Introduction to Exterior Finish Methods	4
CARPT	207 Exterior Doors and Windows	5
CARPT	208 Siding	5

INTERIOR FINISHING: 16 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	209 Introduction to Interior Finish Methods	3
CARPT	210 Interior Floors, Walls, and Ceilings	4
CARPT	211 Interior Doors and Windows	5
CARPT	213 Employment Preparation	2
CARPT	292 Independent Projects	2

CARPENTRY: MULTI-CRAFT TRADES: 10 CREDITS

REQUIRED COURSEWORK		CREDITS
CARPT	102 Safety Principles	3
CARPT	105 Tools and Equipment	4
CARPT	215 Practical Applications	2
CARPT	292 Independent Projects	1

Civil Engineering

www.bates.ctc.edu/CivilEngineering

Students prepare for careers as civil engineering technicians who typically work under the direct supervision of a project engineer. The program environment emulates a civil engineering/surveying firm, giving students practice in many aspects of the profession, including defining project requirements, conducting survey/field work, field engineering, construction staking, designing, estimating, modeling and client presentations. Instruction includes computer-aided design, the preparation of engineering calculations, and coordinate systems which include lengths, directions, slopes, bearings areas, volumes, weights densities, moments, forces, reactions, flows, and loads. Students learn to use a variety of computer software application packages, including, but not limited to Word, Excel, Civil 3D, CadrePro, Hydraflow and SurvCE

Program Prerequisites: COMPASS Pre-algebra 55, Reading 80, or transition from basic studies.

FACULTY

Brian Smith

Associate in Applied Science-Transfer: 106 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
MATH&	141 Precalculus I -or-	
MATH&	142 Precalculus II	5
ENGL&	101 English Composition I	5
CMST&	210 Interpersonal Communications -or-	5
CMST&	230 Small Group Communications Humanities or Natural Science Electives (Two Courses)10	
HIST	101 History of Science and Technology, or Transferable CTC commonly numbered humanities distribution course or transferable CTC commonly numbered physics or chemistry course	

ENGINEERING CORE REQUIREMENTS		CREDITS
AMATH	170 Engineering Foundational Mathematics	5
ENGR	105 CAD – Two Dimension Fundamentals	5
ENGR	106 Intro to Engineering Technology	2
ENGR	107 Intro to Engineering Graphics	3

REQUIRED COURSEWORK		CREDITS
CET	103 Statics	3
CET	105 Structural Analysis	3
CET	109 Introduction to Surveying	3
CET	111 Civil 3D Surfaces and Points	3
CET	113 Hydrology	3
CET	117 GIS Resources	3
CET	121 Coordinate Geometry	3
CET	123 Alignment and Profiles	3
CET	125 Basic Corridors in Civil 3D	3
CET	127 Surveying - Control	3
CET	131 Construction Materials	3
CET	133 Civil 3D Grading	3
CET	135 Utilities Design	3
CET	137 Topographic Surveying	3
CET	202 Finite Element Models	3
CET	204 3D Structural Modeling	3
CET	208 Civil 3D Structural Sections	3
CET	212 Open Channel Flow	3
CET	214 Drainage Reports	3
CET	218 Erosion Control	3
CET	220 Road Design	3
CET	226 Construction Staking	3

Associate in Applied Science: 96 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
MATH&	141 Precalculus I -or-	
MATH&	142 Precalculus II	5
ENGL&	101 English Composition I	5
CMST&	210 Interpersonal Communications -or-	5
CMST&	230 Small Group Communications	

ENGINEERING CORE REQUIREMENTS		CREDITS
AMATH	170 Engineering Foundational Mathematics	5
ENGR	105 CAD – Two Dimension Fundamentals	5
ENGR	106 Intro to Engineering Technology	2
ENGR	107 Intro to Engineering Graphics	3

REQUIRED COURSEWORK		CREDITS
CET	103 Statics	3
CET	105 Structural Analysis	3
CET	109 Introduction to Surveying	3
CET	111 Civil 3D Surfaces and Points	3
CET	113 Hydrology	3
CET	117 GIS Resources	3
CET	121 Coordinate Geometry	3
CET	123 Alignment and Profiles	3
CET	125 Basic Corridors in Civil 3D	3
CET	127 Surveying - Control	3
CET	131 Construction Materials	3
CET	133 Civil 3D Grading	3
CET	135 Utilities Design	3
CET	137 Topographic Surveying	3
CET	202 Finite Element Models	3
CET	204 3D Structural Modeling	3
CET	208 Civil 3D Structural Sections	3
CET	212 Open Channel Flow	3
CET	214 Drainage Reports	3
CET	218 Erosion Control	3
CET	220 Road Design	3
CET	226 Construction Staking	3

CNC Machinist

www.bates.ctc.edu/CNC

This program prepares students for employment in the machinist/manufacturing field. Using a variety of machine tools including computer numeric control (CNC) equipment, students learn to make metal parts to precise specifications. Knowledge of the working properties of metal, capabilities of machine tools and equipment, and standard shop practices prepare students for employment in all types of factories, industries, and maintenance shops.

FACULTY

Barry Young, Denell Zander

Associate in Applied Science: 103 Credits

GENERAL EDUCATION REQUIREMENTS

		CREDITS
100+	Level Human Relations	5
100+	Level Communications	5

REQUIRED CORE

CNCM	121	Introduction to Machining Technology	3
CNCM	122	Measurement Applications	5
CNCM	123	Geometric Dimensioning and Tolerancing	5
CNCM	124	Blueprint Reading II	5
CNCM	125	Machine Shop Mathematics II	5

REQUIRED COURSEWORK

CNCM	102	Machining Fundamentals	3
CNCM	105	Secondary Operations, Benchwork	2
CNCM	110	CNC Mill I	2
CNCM	111	Introduction to CNC Technology	2
CNCM	112	CNC Controls	3
CNCM	113	CNC Programming	4
CNCM	114	CNC Troubleshooting	3
CNCM	119	CNC Lathe I	3
CNCM	201	CNC Lathe II	4
CNCM	202	CNC Lathe III	5
CNCM	203	CNC Mill II	5
CNCM	204	CNC Mill III	5
CNCM	207	Advanced Projects I	5
CNCM	208	Advanced Projects II	5
CNCM	209	Advanced Manufacturing Processes	3
CNCM	213	Aerospace Blueprint Reading	3
CNCM	215	Computer-Aided Manufacturing	5
CNCM	216	Introduction to Computer-Aided Drafting (CAD)	5
CNCM	217	Emergent Technologies	3

Certificate of Competency

CNC Machining: 94 CREDITS

GENERAL EDUCATION REQUIREMENTS

		CREDITS
90+	Level Human Relations	5
90+	Level Communications	5

REQUIRED CORE

CNCM	121	Introduction to Machining Technology	3
CNCM	122	Measurement Applications	5
CNCM	123	Geometric Dimensioning and Tolerancing	5
CNCM	124	Blueprint Reading II	5
CNCM	125	Machine Shop Mathematics II	5

REQUIRED COURSEWORK

CNCM	102	Machining Fundamentals	5
CNCM	105	Secondary Operations, Benchwork	2
CNCM	110	CNC Mill I	2
CNCM	111	Introduction to CNC Technology	2
CNCM	112	CNC Controls	3

(Cont'd)

REQUIRED COURSEWORK

CNCM	113	CNC Programming	4
CNCM	114	CNC Troubleshooting	3
CNCM	119	CNC Lathe I	3
CNCM	201	CNC Lathe II	5
CNCM	203	CNC Mill II	5
CNCM	207	Advanced Projects I	5
CNCM	209	Advanced Manufacturing Processes	3
CNCM	213	Aerospace Blueprint Reading	4
CNCM	215	Computer-Aided Manufacturing	5
CNCM	216	Introduction to Computer-Aided Drafting (CAD)	5

Certificate of Training

CNC Operator: 41 CREDITS

REQUIRED COURSEWORK

CNCM	102	Machining Fundamentals	5
CNCM	103	Aerospace Blueprint Reading	4
CNCM	105	Secondary Operations, Benchwork	2
CNCM	119	CNC Lathe I	5
CNCM	110	CNC Milling I	2
CNCM	121	Introduction to Machining Technology	3
CNCM	122	Measurement Applications	5
CNCM	123	Geometric Dimensioning and Tolerancing	5
CNCM	124	Blueprint Reading II	5
CNCM	125	Machine Shop Mathematics II	5

Commercial Truck Driving-Entry Level

www.bates.ctc.edu/TruckDriving

Bates Technical College is the only school in Washington state certified by the Professional Truck Driver Institute. Students prepare for entry-level employment as commercial truck drivers with the goal of a Class A Commercial Driver's License (CDL) with all endorsements. Training takes place in classrooms, on Bates' truck driving range, and on the road, using a variety of equipment.

Note: Through an Opportunity Grant, special tuition and book funding is available to assist low-income adult students entering this program. Contact Ramon Burton, 253.680.7544, for more information.

Prerequisites:

Applicants must:

1. possess a valid Washington State driver's license;
2. have a driving record with no DUI, negligent, reckless, or hit and run infractions within the past five years;
3. have no more than three moving violations in the past 36 months (a state vehicle operating requirement);
4. must be able to pass the Federal Department of Transportation physical exam and drug screen;
5. not have a felony within the past five years;
6. be a minimum of 18 years of age to enroll in local commercial driving; and
7. be a minimum of 21 years of age to enroll in long-haul commercial driving.

FACULTY

Tom Deligeannis, Dan French, Bob Gunter, Ken Thompson, Wade Westphal

Certificate of Training: 40 Credits

REQUIRED COURSEWORK			CREDITS
TRUCK	101	Safety/First Aid	3
TRUCK	102	Introduction to the Trucking Industry	4
TRUCK	103	Commercial Driver's License (CDL)	4
TRUCK	104	Pre-Trip Requirements	3
TRUCK	105	Close Quarters Operation	5
TRUCK	106	Materials/Cargo I	3
TRUCK	107	City/Town Driving	5
TRUCK	108	Freeway/Open Road I	5

Students must choose one option:

OPTION A: Local

TRUCK	110	City/Town Driving	4
TRUCK	111	Materials/Cargo II	4

OPTION B: Long Haul

TRUCK	112	Freeway/Open Road II	4
TRUCK	113	Advanced Commercial Driving	4

Certificate of Training: 3 Credits

COMMERCIAL DRIVER LICENSE--CLASS B

REQUIRED COURSEWORK			CREDITS
TRUCK	109	Commercial Driver Class B	3

Computer Networking Systems Technician

www.bates.ctc.edu/ComputerNetworking

Computer network systems technicians link the hardware and software that comprise computer data communications networks. They install, configure and maintain network components, work on client workstations, servers, domain controllers, shared printers, cables, and routers. They maintain network equipment, applications, data and user interfaces and workstations as well as troubleshoot local and wide area networks. Desktop, server and network administration positions are needed in all industries due to the ongoing movement towards computer automation. Students are encouraged to obtain Microsoft, Comptia and Cisco certifications, including A+, MCSA, MCITP, MCTS, MCDST and CCNA.

FACULTY

Dave Skeen

Associate in Applied Science: 112 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
ETECH	101	Introduction to Electronics	2
ETECH	102	DC Circuits	5
ETECH	103	AC Circuits	5
ETECH	104	Analog Circuits	5
ETECH	105	Digital Circuits	5
ETECH	106	Microcontrollers	5
CNST	110	MS Client Operating Systems	5
CNST	201	Cisco Network Fundamentals	5
CNST	202	Cisco Routing Protocols and Concepts	5
CNST	205	Fundamentals of Linux	5
CNST	207	Network Infrastructure	5
CNST	209	Directory Services	5
CNST	210	Network Security	5
INFO	101	Computer Applications Essentials	5
INFO	104	A+ Essentials	5
INFO	105	A+ Practical	5
INFO	110	Emerging Technologies	5

Students must choose 15 credits from the attached elective list.

ELECTIVES LIST			CREDITS
CNST	212	Cisco LAN Switching and Wireless	5
CNST	213	Cisco - Accessing the WAN	5
CNST	292	Independent Projects	1-5
ECS	201	Telecommunications Network Cabling	5
ECS	202	Fiber Optics	5
ECS	249	Job Search and Preparation	3
ETECH	108	CET Certification Preparation	3
INFO	108	Project Management	5

Culinary Arts

www.bates.ctc.edu/CulinaryArts

www.bates.ctc.edu/Dining

Students prepare for a variety of careers in the culinary arts profession and for advanced education at other culinary institutions. Career paths include dinner cook, institutional cook, cook's helper, baker's helper, fry cook, and short order cook. Students work in all aspects of the dining facilities on campus, planning and preparing meals and catering banquet functions. Instruction includes food planning and preparation, and serving and cleanup. Graduates receive a broad base of skills and are well prepared for a variety of entry-level culinary jobs.

FACULTY

Roger Knapp, J.J. Meland

Associate in Applied Science: 120 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
CARTS	101	Introduction to Culinary Arts	2
CARTS	102	Sanitation and Food Safety	2
CARTS	103	Product Identification	2
CARTS	104	Breakfast Service	2
CARTS	105	Basic Food Preparation	4
CARTS	106	Basic Cooking Techniques	4
CARTS	107	Fundamentals of Table Service I	3
CARTS	108	Garde Manger I	1
CARTS	109	Food Service Mathematics	2
CARTS	110	Soups and Sauces	4
CARTS	111	Vegetables, Starches, and Grains	5
CARTS	112	Customer Service	3
CARTS	113	Introduction to Baking	5
CARTS	114	Cost Control	2
CARTS	115	Food and Beverage Service	3
CARTS	116	Menu Development	2
CARTS	117	A la Carte Cooking	5
CARTS	118	Introduction to Catering and Banquets	4
CARTS	201	Meats and Seafood	3
CARTS	202	Global Food and Nutrition Issues	2
CARTS	203	Ice Carving	1
CARTS	204	Garde Manger II	2
CARTS	205	Restaurant Desserts	5
CARTS	206	Techniques of Restaurant Cooking	4
CARTS	207	Catering and Banquets	4
CARTS	208	Regional Cuisine Service	3
CARTS	209	International Cuisine Service	3
CARTS	210	Introduction to Management	3
CARTS	211	Classical Cuisine	4
CARTS	212	Chef's Table Service	5
CARTS	213	Advanced Culinary Applications	5
CARTS	214	Employment Preparation	2
CARTS	215	Wine/Spirits	4

Certificate of Competency: 66 Credits

CULINARY ARTS LINE COOK

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
CARTS	101	Introduction to Culinary Arts	2
CARTS	102	Sanitation and Food Safety	2
CARTS	103	Product Identification	2
CARTS	104	Breakfast Service	2
CARTS	105	Basic Food Preparation	4
CARTS	106	Basic Cooking Techniques	4
CARTS	107	Fundamentals of Table Service I	3
CARTS	108	Garde Manger I	1
CARTS	109	Food Service Mathematics	2
CARTS	110	Soups and Sauces	4
CARTS	111	Vegetables, Starches, and Grains	5
CARTS	112	Customer Service	3
CARTS	113	Introduction to Baking	5
CARTS	114	Cost Control	2
CARTS	115	Food and Beverage Service	3
CARTS	116	Menu Development	2
CARTS	117	A la Carte Cooking	5

Certificate of Training: 36-40 Credits

MOBILE FOOD COOK

			CREDITS
REQUIRED COURSEWORK			
CARTS	102	Sanitation and Food Safety	2
CARTS	103	Product Identification	2
CARTS	104	Breakfast Service	2
CARTS	105	Basic Food Preparation	4
CARTS	108	Garde Manger I	1
CARTS	111	Vegetables, Starches, and Grains	5
CARTS	114	Cost Control	2
CARTS	116	Menu Development	2
CARTS	118	Introduction to Catering and Banquets	4
CARTS	120	Food Truck Fundamentals	3
CARTS	121	Business Plans for Mobile Food Services	3
CARTS	122	Food Truck Operation	3
CARTS	214	Employment Preparation	2
CARTS	294	Independent Projects	1-5

Certificate of Training: 19 Credits

CULINARY ARTS PREP COOK

			CREDITS
REQUIRED COURSEWORK			
CARTS	103	Product Identification	2
CARTS	107	Fundamentals of Table Service I	3
CARTS	110	Soups and Sauces	4
CARTS	113	Introduction to Baking	5
CARTS	117	A La Carte Cooking	5

Database Technology

www.bates.ctc.edu/Database

From retail to financial services, healthcare to automotive, today's businesses are computer and information-driven, making database developers an important position in most industries. Database developers organize and manage information to corporations and organizations large and small. Students acquire computer and software development skills and prepare for high-demand Oracle certifications. Career opportunities can include data analyst, database administrator, database application developer, database resource specialist and help desk analyst. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

FACULTY

Judith Graham

Associate of Applied Science - Transfer: 115 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
MATH&	146 Introduction to Stats	5
MATH&	141 Precalculus I	5
ENGL&	101 College Composition	5
Social Sciences/Communications Studies:		5
SOC&	101 Introduction to Sociology, or	
CMST&	210 Interpersonal Communications, or	
PSYC&	100 General Psychology	
Humanities		5
ART&	100 Art Appreciation, or	
HIST	101 History of Science and Technology, or	
ASL&	101 American Sign Language I	

REQUIRED COURSEWORK		CREDITS
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL	5
DATA	103 Operating Systems	5
SOFT	101 Computer Concepts	5
SOFT	102 Programming Fundamentals	5
SOFT	121 C-Sharp I	5
SOFT	122 C-Sharp II	5
WEB	101 Microsoft Office Applications	5
WEB	102 HTML, XHTML and CSS	5
DATA	201 PL/SQL	5
DATA	202 Database Fundamentals I	5
DATA	203 Database Fundamentals II	5
DATA	204 Database Fundamentals III	5
SOFT	204 Open Source Programming	5
CS&	141 Computer Science I – JAVA	5
SOFT	142 Programming in JAVA II	5
SOFT	207 Dynamic Web Pages	5
DATA	290 Capstone Project	5

Associate in Applied Science: 110 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
Human Relations:		5
SOC&	101 Introduction to Sociology, or	
CMST&	210 Interpersonal Communications, or	
PSYC&	100 General Psychology	
Communications		5
ENGL&	101 College Composition	
Computations		10
MATH&	146 Introduction to Stats, and	
MATH&	141 Precalculus I	

REQUIRED COURSEWORK		CREDITS
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL	5
DATA	103 Operating Systems	5
SOFT	101 Computer Concepts	5
SOFT	102 Programming Fundamentals	5
SOFT	121 C-Sharp I	5
SOFT	122 C-Sharp II	5
WEB	101 Microsoft Office Applications	5
WEB	102 HTML, XHTML and CSS	5
DATA	201 PL/SQL	5
DATA	202 Database Fundamentals I	5
DATA	203 Database Fundamentals II	5
DATA	204 Database Fundamentals III	5
DATA	208 SQL Server Admin	5
CS&	141 Computer Science I – JAVA	5
SOFT	142 Programming in JAVA II	5
SOFT	207 Dynamic Web Pages	5
DATA	290 Capstone Project	5

Certificate of Competency: 60 Credits

DATABASE TECHNICIAN		CREDITS
GENERAL EDUCATION REQUIREMENTS		
90+	Level Human Relations	5
90+	Level Communications	5
90+	Level Mathematics	5

REQUIRED COURSEWORK		CREDITS
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL	5
DATA	103 Operating Systems	5
DATA	201 PL/SQL	5
DATA	202 Database Fundamentals I	5
DATA	203 Database Fundamentals II	5
DATA	204 Database Fundamentals III	5
SOFT	101 Computer Concepts	5
WEB	101 Microsoft Office Applications	5

Dental Assisting

www.bates.ctc.edu/DentalAssisting

Students prepare for careers as chair side dental assistants, dental office managers, and infection control specialists. The program is designed in accordance with American Dental Association guidelines and is fully accredited by the Commission on Dental Accreditation. After completing industry-specific competencies, students may take the Dental Assisting national board examination to earn nationally recognized credentials as a certified dental assistant. Note: General education requirements must be taken 1) prior to entering the program or, 2) before or after the regularly schedule dental assisting coursework.

Prerequisites:

1. High School diploma or GED
2. Minimum age for program entry: 18 years of age
3. A National and Washington State Patrol background check clearance
4. Documentary evidence of current immunizations and medical/dental evaluation within two weeks of program start date.
5. Documentary evidence of current American Heart Association, Health Care Provider approved First Aid/CPR card within two weeks of program start date.
6. Must meet pre-determined COMPASS levels in reading and writing

FACULTY

Shawn Adams, Teri Amundsen, Patty Reno

Associate in Applied Science: 95 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
DNTA	110	Introduction to Dental Assisting	2
DNTA	111	Infection Control	5
DNTA	112	Biomedical Sciences	5
DNTA	114	Dental Sciences I	4
DNTA	120	Introduction to Chairside Assisting	4
DNTA	121	Chairside Assisting I	4
DNTA	122	Dental Materials I	3
DNTA	124	HIV/AIDS Training	1
DNTA	127	Office Administration	3
DNTA	128	Dental Sciences II	3
DNTA	130	Dental Sciences III	3
DNTA	131	Chairside Assisting II	3
DNTA	134	Chairside Assisting III	3
DNTA	139	Restorative Services I	5
DNTA	144	Dental Radiology	5
DNTA	146	Chairside Assisting IV	5
DNTA	147	Dental Materials II	3
DNTA	150	Dental Sciences IV	3
DNTA	151	Clinical Experience I	5
DNTA	152	Dental Materials III	4
DNTA	153	Office Administration Applications	2
DNTA	162	Clinical Experience II	3
DNTA	165	Clinical Experience III	2

Certificate of Competency: 90 Credits

DENTAL ASSISTANT			CREDITS
GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
90+	Level	Communications	5
REQUIRED COURSEWORK			CREDITS
DNTA	110	Introduction to Dental Assisting	2
DNTA	111	Infection Control	5
DNTA	112	Biomedical Sciences	5
DNTA	114	Dental Sciences I	4
DNTA	120	Introduction to Chairside Assisting	4
DNTA	121	Chairside Assisting I	4
DNTA	122	Dental Materials I	3
DNTA	124	HIV/AIDS Training	1
DNTA	127	Office Administration	3
DNTA	128	Dental Sciences II	3
DNTA	130	Dental Sciences III	3
DNTA	131	Chairside Assisting II	3
DNTA	134	Chairside Assisting III	3
DNTA	140	Restorative Services I	5
DNTA	144	Dental Radiology	5
DNTA	146	Chairside Assisting IV	5
DNTA	147	Dental Materials II	3
DNTA	150	Dental Sciences IV	3
DNTA	151	Clinical Experience I	5
DNTA	152	Dental Materials III	4
DNTA	153	Office Administration Applications	2
DNTA	162	Clinical Experience II	3
DNTA	165	Clinical Experience III	2

Dental Lab Technician

www.bates.ctc.edu/DentalLab

Students prepare for employment in dental laboratories, fabricating orthodontic appliances, complete and partial dentures, and gold or porcelain crowns and bridges. The curriculum complies with American Dental Association guidelines and is the only fully accredited ADA dental lab technician program in Washington State. Instructors of this program are certified dental technicians.

Prerequisites:

1. A high school diploma or GED.
2. Applicants must be fully ready to enter into general education courses. This entry requirement may be satisfied by providing the registrar with official transcripts showing completion of general education courses, or by satisfactory completion of placement tests that enable the student to enroll directly into required general education courses.
3. Applicants must take and pass an evaluation of hand-eye coordination techniques and demonstrate their ability to visualize three-dimensional forms.
4. Applicants must take and pass an evaluation of hand-eye coordination techniques and demonstrate their ability to visualize three-dimensional forms. If applicants do not pass the written visual and dexterity evaluation, they have the option to take a hands-on wax carving test to demonstrate their ability; applicants must satisfactorily complete the hands-on wax carving test.

FACULTY

Bob Criss, Kristina Merriman

Associate in Applied Science: 120 Credits

GENERAL EDUCATION REQUIREMENTS

	CREDITS
100+ Level Human Relations	5
100+ Level Communications	5
100+ Level Mathematics	5

REQUIRED COURSEWORK

	CREDITS
DENLB 101 Introduction to Dental Lab Technology	2
DENLB 102 Health and Safety	2
DENLB 103 Dental Anatomy	3
DENLB 104 Dental Materials	2
DENLB 105 Dentures – Casts/Trays/Rims	4
DENLB 106 Denture Setup	3
DENLB 107 Denture Processes	3
DENLB 108 Immediate Dentures	2
DENLB 109 Denture Repair	2
DENLB 110 Esthetic Arrangement	3
DENLB 111 Introduction to Orthodontics	2
DENLB 112 Orthodontic Appliances – Fixed	3
DENLB 113 Orthodontic Appliances – Removable	3
DENLB 114 Introduction to Removable Prosthetic Devices (RPD)	2
DENLB 120 RPD Survey and Design	2
DENLB 121 Refractory Cast Production	2
DENLB 122 Wax Pattern Construction	3
DENLB 123 RPD Processes	3
DENLB 124 Frame Construction	2
DENLB 201 Plaster Carving	5
DENLB 202 Dental Materials II	2
DENLB 203 Coping Fabrication I	5
DENLB 204 Introduction to Gold Crowns	2
DENLB 205 Gold Crown Waxing	5

DENLB 206 Gold Crown Techniques	5
DENLB 207 Introduction to Porcelain	5
DENLB 208 Coping Fabrication II	5
DENLB 209 Stack Porcelain	5
DENLB 211 Porcelain Techniques	4
DENLB 212 Advanced Porcelain Techniques	4
DENLB 213 Advanced Technologies	4
or	
DENLB 296 Work-based Learning Seminar and	1
DENLB 297 Work-based Learning Experience	3
or	
DENLB 298 Work-based Learning Experience – No seminar	4

Students may choose one of the following (3 credits):

DENLB 125 Advanced Dentures or	3
DENLB 126 Advanced Orthodontics or	3
DENLB 127 Advanced RPDs	3

Students may choose one of the following (3 credits):

DENLB 214 Advanced Crown and Bridge or	3
DENLB 215 Advanced Dental Ceramics	3

Certificate of Competency: 63 Credits

DENTAL LAB TECH

GENERAL EDUCATION REQUIREMENTS

	CREDITS
90+ Level Human Relations	5
90+ Level Communications	5
90+ Level Mathematics	5

REQUIRED COURSEWORK

	CREDITS
DENLB 101 Introduction to Dental Lab Technology	2
DENLB 102 Health and Safety	2
DENLB 103 Dental Anatomy	3
DENLB 104 Dental Materials	2
DENLB 105 Dentures – Casts/Trays/Rims	4
DENLB 106 Denture Setup	3
DENLB 107 Denture Processes	3
DENLB 108 Immediate Dentures	2
DENLB 109 Denture Repair	2
DENLB 110 Esthetic Arrangement	3
DENLB 111 Introduction to Orthodontics	2
DENLB 112 Orthodontic Appliances – Fixed	3
DENLB 113 Orthodontic Appliances – Removable	3
DENLB 114 Introduction to Removable Prosthetic Devices (RPD)	2
DENLB 120 RPD Survey and Design	2
DENLB 121 Refractory Cast Production	2
DENLB 122 Wax Pattern Construction	3
DENLB 123 RPD Processes	3
DENLB 124 Frame Construction	2

Denturist

www.bates.ctc.edu/Denturist

Bates Technical College is the only college in Washington State to offer a denturist training program. Denturists are licensed specialists who make, fit, and repair complete and partial dentures. In order to meet the requirements of the denturist profession, candidates must obtain training at an accredited college to qualify to sit for the Washington, Oregon, Idaho, Montana, or Arizona denturist's license examination. Instruction includes anatomy, physiology, microbiology, ethics, medical emergencies, office management, and clinical/laboratory techniques as they apply to denture practices. Students receive clinical experience in the on-campus denturist clinic which provides services to the public. New students may enter the program at the beginning of fall and spring quarters.

Prerequisites:

1. A high school diploma or GED.
2. Applicants must be fully ready to enter into general education courses. This entry requirement may be satisfied by providing the registrar with official transcripts showing actual completion of general education courses, or by satisfactory completion of placement tests that enable the student to enroll directly into required general education courses.
3. Applicants must take and pass aptitude tests measuring dexterity and the ability to visualize three-dimensional forms.
4. Personal interview with instructor.

FACULTY

Mauricio Henriquez, Dr. Kenneth Kais

Associate in Applied Science: 120 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
DNTU	101	Asepsis, Infection, Hazard Control	2
DNTU	102	Biological Concepts	3
DNTU	103	Introduction to Complete Denture Prosthodontics	3
DNTU	104	Baseplates and Occlusion Rims	2
DNTU	105	Tooth Selection and Set I	3
DNTU	106	Dental Materials I	2
DNTU	107	Denture Techniques	2
DNTU	108	Complete Denture Fabrication I	2
DNTU	109	Dental Office Management I	1
DNTU	110	Head Anatomy and Physiology I	2
DNTU	111	Tooth Selection and Set II	1
DNTU	112	Medical Emergencies	3
DNTU	114	Complete Denture Fabrication II	1
DNTU	115	Partial Dental Casts	2
DNTU	116	Framework Design - RPD	3
DNTU	117	Dental Office Management II	2
DNTU	118	Clinical Denture Procedures I	2
DNTU	119	Dental Impressions Procedures I	2
DNTU	120	Head Anatomy and Physiology II	3
DNTU	121	Tooth Selection and Set III	1
DNTU	123	Complete Denture Repair I	2
DNTU	124	Casts - Partial	2
DNTU	125	Oral Pathology	2
DNTU	126	Clinical Denture Procedures II	2
DNTU	127	Dental Impressions Procedures II	2
DNTU	128	Fabrication Clinical II	1
DNTU	129	Polish Methods - RDP Frames	1

REQUIRED COURSEWORK (cont'd)

			CREDITS
DNTU	131	Wax Patterns - Partial	4
DNTU	132	Teeth Arrangement - RPD	2
DNTU	135	Oral Pathology II	3
DNTU	136	Clinical Denture Procedures III	2
DNTU	138	Fabrication Clinical III	2
DNTU	139	Dental Office Management III	2
DNTU	201	Complete Denture Repair II	2
DNTU	203	RPD Repair Methods	3
DNTU	204	Dental Office Management V	2
DNTU	205	Denture Adjustments	1
DNTU	206	Ethics and Jurisprudence	1
DNTU	207	Malocclusions	2
DNTU	208	Clinical Denture Procedures IV	2
DNTU	210	Geriatric Patient Needs	3
DNTU	211	Fabrication Clinical IV	2
DNTU	212	Alternative RPD Systems	2
DNTU	213	Implant and Precision Attachments	1
DNTU	214	Advanced Special Services	1
DNTU	215	Advanced Dental Appliances	1
DNTU	220	Dental Office Management IV	2
DNTU	222	Fabrication Clinical V	3
DNTU	223	Dental Office Management VI	3
DNTU	229	Clinical Denture Procedures V	4
DNTU	233	Finish Methods - RPD	1

Diesel & Heavy Equipment Mechanic

www.bates.ctc.edu/Diesel

Students prepare for employment in the diesel and heavy equipment industry, diagnosing, repairing, and rebuilding components of diesel-powered vehicles in an on-campus shop setting. Local industry training partnerships provide practical experience that enhances student instruction. Graduates may find employment as technicians in diesel and heavy duty apprenticeships, working with on/off highway trucks, construction equipment, hydraulics, material handling equipment, agricultural equipment, marine, and utilities.

FACULTY

Gene Gablehouse, Mick McGuire, Mike Satore, Ray Shjerven

Associate in Applied Science: 106 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
DIESL	103	Introduction to Hydraulic Systems	5
DIESL	104	Diagnosis and Testing of Hydraulic Systems	2
DIESL	105	Introduction to Diesel Technology	1
DIESL	106	Engine Construction	5
DIESL	107	Engine Systems	1
DIESL	108	Engine Reassembly	4
DIESL	109	Fuel Systems	2
DIESL	110	Introduction to Air Brakes	2
DIESL	111	Introduction to Basic Electrical Systems	4
DIESL	112	Electrical Systems Application	4
DIESL	113	Electronic Engine Systems	3
DIESL	114	Mobile Air Conditioning Systems	3
DIESL	115	Introduction to Power Trains	1
DIESL	116	Manual Transmission Service	3
DIESL	117	Automated Manual Transmission Service	2
DIESL	118	Clutch Service	2
DIESL	119	Automatic Transmission Service	2
DIESL	120	Driveline Service	1
DIESL	121	Differentials/ Final Drive	2
DIESL	122	Wheel End Service	1
DIESL	201	Basic Vehicle Service	11
DIESL	203	Advanced Service Applications	5
DIESL	204	Employment Preparation	2
DIESL	205	Advanced Service Techniques *	15
WBAS	101	Welding Basics	8

* This course may be substituted with a work-based learning component.

Certificate of Competency: 76 Credits

Basic Servicing

GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
DIESL	103	Introduction to Hydraulic Systems	5
DIESL	104	Diagnosis and Testing of Hydraulic Systems	2
DIESL	105	Introduction to Diesel Technology	1
DIESL	106	Engine Construction	5
DIESL	107	Engine Systems	1
DIESL	108	Engine Reassembly	4
DIESL	109	Fuel Systems	2
DIESL	110	Introduction to Air Brakes	2
DIESL	111	Introduction to Basic Electrical Systems	4
DIESL	112	Electrical Systems Application	4
DIESL	113	Electronic Engine Systems	3
DIESL	114	Mobile Air Conditioning Systems	3
DIESL	115	Introduction to Power Trains	1
DIESL	116	Manual Transmission Service	3
DIESL	117	Automated Manual Transmission Service	2
DIESL	118	Clutch Service	2
DIESL	119	Automatic Transmission Service	2
DIESL	120	Driveline Service	1
DIESL	121	Differentials/ Final Drive	2
DIESL	122	Wheel End Service	1
DIESL	201	Basic Vehicle Service	11

Certificate of Training: 32 Credits

BASIC SERVICING

REQUIRED COURSEWORK

			CREDITS
DIESL	103	Introduction to Hydraulic Systems	5
DIESL	104	Diagnosis and Testing of Hydraulic Systems	2
DIESL	111	Introduction to Basic Electrical Systems	4
DIESL	112	Electrical Systems Application	4
DIESL	113	Electronic Engine Systems	3
DIESL	114	Mobile Air Conditioning Systems	3
DIESL	201	Basic Vehicle Service	11

Certificate of Training: 15 Credits

ENGINES

REQUIRED COURSEWORK

			CREDITS
DIESL	105	Introduction to Diesel Technology	1
DIESL	106	Engine Construction	5
DIESL	107	Engine Systems	1
DIESL	108	Engine Reassembly	4
DIESL	109	Fuel Systems	2
DIESL	110	Introduction to Air Brakes	2

Certificate of Training: 14 Credits

POWER TRAINS

REQUIRED COURSEWORK

			CREDITS
DIESL	115	Introduction to Power Trains	1
DIESL	116	Manual Transmission Service	3
DIESL	117	Automated Manual Transmission Service	2
DIESL	118	Clutch Service	2
DIESL	119	Automatic Transmission Service	2
DIESL	120	Driveline Service	1
DIESL	121	Differentials/ Final Drive	2
DIESL	122	Wheel End Service	1

Digital Media

www.bates.ctc.edu/DigitalMedia

Digital media is a key component in film, television, video and website production, and encompasses a variety of projects, from filming and editing to digital animation and computer games. The constant implementation of new technology makes this a fast-moving field, a good fit for the student who seeks a career in a visual medium with leading-edge technology. Instruction includes production and editing software and the opportunity to achieve practical experience working on a variety of studio projects. Employment opportunities for digital media professionals include work as creative services editors, video editors and graphics editors for production studios, film companies, web design companies, advertising and multimedia companies. The program also provides extended learning opportunities for persons previously or currently employed in the industry.

FACULTY

Brian Parker

Associate in Applied Science: 106 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
DIGIT 102	Image Editing		5
DIGIT 103	Graphic Generation I		5
DIGIT 105	Digital Imaging		5
DIGIT 121	Production Process I		5
DIGIT 126	Production Process II		5
DIGIT 127	Production Process III		5
DIGIT 130	Production Editing I		3
DIGIT 131	Production Editing II		3
DIGIT 132	Digital Media – Video		5
DIGIT 141	Compositing I		5
DIGIT 142	Compositing II		5
DIGIT 143	Digital Media – Animation		5
DIGIT 145	Digital Media – Audio		5
DIGIT 210	Pre-production Project I		5
DIGIT 211	Production Process Project I		5
DIGIT 212	Post-production Project I		5
DIGIT 220	Pre-production Project II		5
DIGIT 221	Production Process Project II		5
DIGIT 222	Post-production Project II		5

Certificate of Competency: 76 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
DIGIT 102	Image Editing		5
DIGIT 103	Graphic Generation I		5
DIGIT 105	Digital Imaging		5
DIGIT 121	Production Process I		5
DIGIT 126	Production Process II		5
DIGIT 127	Production Process III		5
DIGIT 130	Production Editing I		3
DIGIT 131	Production Editing II		3
DIGIT 132	Digital Media – Video		5
DIGIT 141	Compositing I		5
DIGIT 142	Compositing II		5
DIGIT 143	Digital Media – Animation		5
DIGIT 145	Digital Media – Audio		5

Certificate of Training: 15 Credits

Video Production			CREDITS
REQUIRED COURSEWORK			
DIGIT 121	Production Process I		5
DIGIT 126	Production Process II		5
DIGIT 127	Production Process III		5

Certificate of Training: 11 Credits

Editing			CREDITS
REQUIRED COURSEWORK			
DIGIT 130	Non-linear Editing		3
DIGIT 131	Editing Process		3
DIGIT 132	Digital Media – Video		5

Certificate of Training: 15 Credits

Motion Graphics			CREDITS
REQUIRED COURSEWORK			
DIGIT 102	Image Editing		5
DIGIT 103	Graphic Generation I		5
DIGIT 105	Digital Imaging		5

Early Childhood Education

www.bates.ctc.edu/EarlyEducation

Students prepare for careers in Early Childhood Education (ECE) for such positions as Early Learning Program teacher, assistant teacher, program supervisor, and/or center director. The ECE curriculum prepares students to work with children birth to 8 years of age in diverse early childhood environments. The competencies are aligned with Washington State Core Competencies for Early Care and Education Professionals and national standards (National Association for the Education of Young Children) and identify eight (8) content areas organized into five (5) levels of proficiency. Early Childhood students will combined learned theories and practical laboratory experiences with young children in the college early childhood learning center under supervision with qualified educators.

Prerequisites:

1. Passed the Department of Early Learning Portable Background Check
2. Negative Mantoux TB test in the 12 months prior to 1st day of class
3. Must meet pre-determined COMPASS levels in reading and writing

FACULTY

Teresa Borchardt

Associate in Applied Science: 96 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
100+ Level	Human Relations	5
100+ Level	Communications	5
100+ Level	Mathematics	5
GENERAL EDUCATION REQUIREMENTS		CREDITS
ECED&	105 Intra to Early Childhood Education	5
ECED&	107 Health, Nutrition and Safety	5
EDUC&	115 Child Development	5
ECED&	120 Practicum- Nurturing Relationships	2
EDUC&	130 Guiding Behavior	3
	Electives (choose 1)*	3
EDUC&	136 School Age*	
ECED&	132 Infant Toddler*	
ECED&	134 Family Child Care*	
EDUC&	150 Child, Family and Community	3
ECED&	160 Curriculum Development	5
ECED&	170 Environments for Young Children	3
ECED&	180 Language & Literacy Development	3
ECED&	190 Observation and Assessment	3
ECE	201 Issues in Early Education	5
EDUC&	204 Exceptional Children	5
ECE	204 Early Childhood Practicum II	3
ECE	213 Creative Experience-Art & Movement	5
ECE	207 Professionalism	5
ECED&	139 Admin of Early Learning	3
ECE	210 Early Childhood Practicum III	3
ECE	211 Emotional & Social Develop	5
ECE	212 Cognitive Development	5
ECE	214 Early Childhood Practicum IV	2

Associate of Applied Science - Transfer: 101 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
100+ Level	Human Relations	5
100+ Level	Communications	5
100+ Level	Mathematics	5
100+ Level	Humanities/Social Sciences	5

REQUIRED COURSEWORK

REQUIRED COURSEWORK		CREDITS
ECED&	105 Intra to Early Childhood Education	5
ECED&	107 Health, Nutrition and Safety	5
EDUC&	115 Child Development	5
ECED&	120 Practicum- Nurturing Relationships	2
EDUC&	130 Guiding Behavior	3
	Electives (choose 1)*	3
EDUC&	136 School Age*	
ECED&	132 Infant Toddler*	
ECED&	134 Family Child Care*	
EDUC&	150 Child, Family and Community	3
ECED&	160 Curriculum Development	5
ECED&	170 Environments for Young Children	3
ECED&	180 Language & Literacy Development	3
ECED&	190 Observation and Assessment	3
ECE	201 Issues in Early Education	5
EDUC&	204 Exceptional Children	5
ECE	204 Early Childhood Practicum II	3
ECE	213 Creative Experience-Art & Movement	5
ECE	207 Professionalism	5
ECED&	139 Admin of Early Learning	3
ECE	210 Early Childhood Practicum III	3
ECE	211 Emotional & Social Develop	5
ECE	212 Cognitive Development	5
ECE	214 Early Childhood Practicum IV	2

Early Childhood Education (continued)

State Early Childhood Education Certificate: 47 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
100+ Level	Communications	5
100+ Level	Mathematics	5
REQUIRED COURSEWORK		CREDITS
ECED&	105 Introduction to Early Childhood Education	5
ECED&	107 Health, Nutrition, and Safety	5
EDUC&	115 Child Development*	5
ECED&	120 Practicum – Nurturing Relations	2
EDUC&	130 Child Guidance*	3
EDUC&	150 Child, Family, and Community	3
ECED&	160 Curriculum Development	5
ECED&	170 Environments for Young Children	3
ECED&	180 Language and Literacy Development	3
ECED&	190 Observation and Assessment	3

State Short Early Childhood Education Certificate of Specialization-General: 20 Credits

REQUIRED COURSEWORK		CREDITS
ECED&	105 Introduction to Early Childhood Education	5
ECED&	107 Health, Nutrition, and Safety	5
EDUC&	115 Child Development*	5
ECED&	120 Practicum	2
EDUC&	130 Child Guidance	3

State Initial Early Childhood Education Certificate: 12 Credits

REQUIRED COURSEWORK		CREDITS
ECED&	105 Introduction to Early Childhood Education	5
ECED&	107 Health, Nutrition, and Safety	5
ECED&	120 Practicum – Nurturing Relationships	2

State Short Early Childhood Education Certificate of Specialization – Infants & Toddlers: 20 Credits

ECED&	105 Intro to Early Childhood Education	5
ECED&	107 Health, Safety, Nutrition	5
EDUC&	115 Child Development	5
EDUC&	120 Practicum: Focus on Relationships and Communication	2
ECED&	132 Infants/Toddlers Care	3

State Short Early Childhood Education Certificate of Specialization – School Age Care: 20 Credits

ECED&	105 Intro to Early Childhood Education	5
ECED&	107 Health, Safety, Nutrition	5
EDUC&	115 Child Development	5
EDUC&	120 Practicum: Focus on Relationships and Communication	2
EDUC&	136 School Age Care	3

State Short Early Childhood Education Certificate of Specialization – Family Child Care: 20 Credits

ECED&	105 Intro to Early Childhood Education	5
ECED&	107 Health, Safety, Nutrition	5
EDUC&	115 Child Development	5
EDUC&	120 Practicum: Focus on Relationships and Communication	2
ECED&	134 Family Child Care	3

State Short Early Childhood Education Certificate of Specialization – Administration: 20 Credits

ECED&	105 Intro to Early Childhood Education	5
ECED&	107 Health, Safety, Nutrition	5
EDUC&	115 Child Development	5
EDUC&	120 Practicum: Focus on Relationships and Communication	2
ECED&	138 Admin Early Learning	3

Electrical Construction

www.bates.ctc.edu/Electrical

Full-time day and swing shift programs are available for students seeking to earn a degree or certificate in electrical construction for jobs in commercial and residential construction, public utility agencies, and industrial construction and maintenance. The program also provides extended learning opportunities for persons previously or currently employed in these and related occupations. Students interested in receiving an ELO1 license should consult with career advisors to ensure enrollment in the appropriate program.

FACULTY

Jim Androy, Dave Leenhouts, Jeff Llapitan

Associate in Applied Science: 120-158 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
ELCON	101	Introduction to Electrical Construction	3
ELCON	102	Applied Physical Science	5
ELCON	103	Hand and Power Tools	4
ELCON	104	Electrical Service Installation	4
ELCON	105	Electrical Components	4
ELCON	106	Introduction to Residential Wiring	3
ELCON	107	National Electric Code	4
ELCON	108	NFPA 70E Standard	4
ELCON	109	Residential Design	3
ELCON	110	Residential Wiring Techniques	3
ELCON	111	Systems Troubleshooting	3
ELCON	112	Introduction to Blueprint Reading	3
ELCON	113	Blueprint Reading Applications	5
WBAS	101	Welding Basics	8
ELCON	201	Specialty Tools	4
ELCON	202	Commercial Wiring	3
ELCON	203	Commercial Codes and Regulations	3
ELCON	204	Commercial Material Identification	3
ELCON	205	Commercial Installation	3
ELCON	206	Industrial Wiring	3
ELCON	207	Industrial Material Identification	3
ELCON	208	Industrial Installation	3
ELCON	209	Industrial Hazards	3
ELCON	210	Motors and Controllers	4
ELCON	211	Project Estimation	5
ELCON	212	Control Circuits	3
ELCON	213	Motors and Controllers Applications	3
ELCON	214	Transformers	3
ELCON	215	Advanced Motor Controls	3
ELCON	220	Advanced Projects I *	10
ELCON	221	Advanced Projects II *	10
ELCON	222	Advanced Projects III *	10
ELCON	223	Advanced Project s IV*	10

*These courses are available for students who need additional hours in order to meet licensing requirements.

Certificate of Competency: 67 Credits

RESIDENTIAL ELECTRICIAN

GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
ELCON	101	INTRODUCTION TO ELECTRICAL CONSTRUCTION	3
ELCON	102	APPLIED PHYSICAL SCIENCE	5
ELCON	103	HAND AND POWER TOOLS	4
ELCON	104	ELECTRICAL SERVICE INSTALLATION	4
ELCON	105	ELECTRICAL COMPONENTS	4
ELCON	106	INTRODUCTION TO RESIDENTIAL WIRING	3
ELCON	107	NATIONAL ELECTRIC CODE	4
ELCON	108	NFPA 70E STANDARD	4
ELCON	109	RESIDENTIAL DESIGN	3
ELCON	110	RESIDENTIAL WIRING TECHNIQUES	3
ELCON	111	SYSTEMS TROUBLESHOOTING	3
ELCON	112	INTRODUCTION TO BLUEPRINT READING	3
ELCON	113	BLUEPRINT READING APPLICATIONS	5
ELCON	201	SPECIALTY TOOLS	4

ELECTRICAL CONSTRUCTION - Licensure Eligibility

This is a career training program that prepares students to apply to the Southwest Washington Electrical Joint Apprenticeship Training Committee, an organization affiliated with the International Brotherhood of Electrical Workers Local #76. Upon completion of the 3000 hours of instruction, students will be given 4000 hours that will apply toward the ELOA1 license.

Electrical Engineering Technician

www.bates.ctc.edu/ElectricalEngineering

Bates offers the only program in the region in which students prepare for careers in electrical code application, interior and exterior lighting design, and all aspects of electrical design. Instruction includes all phases of electrical engineering, CAD drafting, and design for commercial buildings. Technician's design and draft electrical power, signal, interior, and exterior lighting systems. They also assist in specification writing and share in on-site construction supervision. Students in this program are encouraged to take the National Institute for Certification in Engineering Technologies (NICET) examinations.

Program Prerequisite: COMPASS Pre-algebra 55 and Reading 80 or approved transition from basic studies

FACULTY

Stan Reed

Associate in Applied Science - Transfer: 119 Credits

GENERAL EDUCATION REQUIREMENTS CREDITS

MATH&	141	Precalculus I	
		-or-	5
MATH&	142	Precalculus II	
ENGL&	101	English Composition I	5
CMST&	210	Interpersonal Communications	
		-or-	5
CMST&	230	Small Group Communications	
		-or-	
PSYC&	100	General Psychology	
		Humanities or Natural Science Electives (Two Courses) 10	
HIST	101	History of Science and Technology, or	

*Transferable CTC commonly numbered humanities distribution course or transferable CTC commonly numbered physics or chemistry course.

Associate in Applied Science: 109 Credits

GENERAL EDUCATION REQUIREMENTS CREDITS

MATH&	141	Precalculus I	
		-or-	
MATH&	142	Precalculus II	5
ENGL&	101	English Composition I	5
CMST&	210	Interpersonal Communications	5
		-or-	
CMST&	230	Small Group Communications	
		-or-	
PSYC&	100	General Psychology	

ENGINEERING CORE REQUIREMENTS CREDITS

AMATH	170	Engineering Foundational Mathematics	5
ENGR	105	CAD – Two Dimension Fundamentals	5
ENGR	106	Intro to Engineering Technology	2
ENGR	107	Intro to Engineering Graphics	3

ELECTIVE COURSEWORK OPTIONS

Students must choose five credits from the following:

ETRIC	206	Fundamentals of Low-Voltage Systems	2
ETRIC	242	Fundamentals of Cost Estimating	2
ETRIC	207	Fundamentals of High-Voltage Systems	3
ETRIC	248	Construction Specifications	3

REQUIRED COURSEWORK

			CREDITS
ETRIC	114	Fundamentals of Electricity	2
ETRIC	123	Electrical Principles	4
ETRIC	125	Engineering Drafting	3
ETRIC	129	Applied Electrical Principles	4
ETRIC	141	National Electrical Code	3
ETRIC	143	Fundamentals of Power Systems	3
ETRIC	144	Codes Applications I	4
ETRIC	145	Technical Communications	2
ETRIC	146	Physics for Engineering	3
ETRIC	171	Electrical Math I	2
ETRIC	172	Electrical Math II	2
ETRIC	204	Essentials of Electrical Systems Design	3
ETRIC	205	Fundamentals of Lighting Systems	3
ETRIC	210	Advanced Power Systems	3
ETRIC	225	Advanced CAD Operations	3
ETRIC	227	Introduction to Commercial Electrical Systems	4
ETRIC	228	Electrical System Design Applications	4
ETRIC	230	Intermediate Electrical System Design	4
ETRIC	234	CAD Design Applications	3
ETRIC	245	Commercial Electrical Design Applications	5
ETRIC	246	Advanced Electrical System Design	5
ETRIC	247	Codes Applications II	5

Electronic and Communications Systems Technology

www.bates.ctc.edu/ElectronicCommunications

Students prepare for employment in the electronic and communications industry. Graduates install, repair, test, and maintain a wide variety of equipment including radio and mobile communications, avionics, marine electronics, cellular, and satellite, as well as associated electronic systems.

Some communications technicians may install and maintain structured cable or fiber optic systems to meet the needs of communication services including telephony, data, video, computer, broadcast, and wireless networks. Graduates are employed as field or bench technicians with opportunities to work anywhere from a mountain top repeater station to a comfortable indoor work environment.

A career in the high demand field of technology is professionally, personally and monetarily rewarding. Most employers provide medical, dental, vision, and retirement benefits, and some larger organizations pay for continuing education classes. Field technician graduates are often supplied company vehicles, cellular phones, and laptop computers at employer's expense.

Students also prepare for industry certifications and licenses including the Federal Communications Commission General Radiotelephone License and Radar Endorsement,; Certified Network Cabling Specialist; Certified Fiber Optic Technician; and Certified Electronics Technician.

With a degree or certificate in Electronic and Communications Systems, graduates are well prepared and positioned for employment as:

- Fiber Optics Systems Specialist
- Cellular Systems Technician
- Cable Systems Installer
- Data/Voice Network Technician
- Mobile Radio Technician
- Wireless Systems Support
- Electronic Technician
- Telecommunications Specialist

FACULTY

Laura Robertson

Associate in Applied Science: 113 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5
REQUIRED COURSEWORK			CREDITS
ETECH	101	Introduction to Electronics	2
ETECH	102	DC Circuits	5
ETECH	103	AC Circuits	5
ETECH	104	Analog Circuits	5
ETECH	105	Digital Circuits	5
ETECH	106	Microcontrollers	5
ETECH	108	CET Certification Preparation	3
ECS	201	Telecommunications Network Cabling Systems	5
ECS	202	Fiber Optics	5
ECS	203	FCC Licensure Prep I	5
ECS	204	FCC Licensure Prep II	5

REQUIRED COURSEWORK (cont'd)			CREDITS
ECS	205	Wireless/RF Communications	4
ECS	206	Wireless Personal Area Networks	2
ECS	207	Wireless Local Area Networks	3
ECS	208	Wireless Broadband Networks	4
ECS	210	Introduction to RF Communications	2
ECS	211	Amplitude Modulation	3
ECS	212	Single Sideband and Frequency Modulation	4
ECS	213	Transmission Lines and Antennas	2
ECS	214	Microwave, Telephony, and Cellular	2
ECS	215	Data and Networking Fundamentals	2
ECS	216	Advanced Communications Principles	2
Students must chose 18 credits from the electives list.			18

Certificate of Competency: 81 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
ETECH	101	Introduction to Electronics	2
ETECH	102	DC Circuits	5
ETECH	103	AC Circuits	5
ETECH	104	Analog Circuits	5
ETECH	105	Digital Circuits	5
ETECH	106	Microcontrollers	5
ETECH	108	CET Certification Preparation	3
ECS	201	Telecommunications Network Cabling Systems	5
ECS	202	Fiber Optics	5
ECS	205	Wireless/RF Communications	4
ECS	206	Wireless Personal Area Networks	2
ECS	207	Wireless Local Area Networks	3
ECS	208	Wireless Broadband Networks	4
Students must choose eight credits from the electives list.			13

ELECTIVES LIST		CREDITS	
ECS	230	Telecommunications Fundamentals Lab	2
ECS	231	Radio Communications Lab	3
ECS	232	Microwave Lab Fundamentals	2
ECS	233	Signal Processing Lab	4
ECS	236	RF Communications Lab	5
ECS	249	Job Search and Preparation	3
ECS	290	Independent Study I	3-5
ECS	291	Independent Study II	3-5
ECS	296	Work-based Learning Experience	3-5
ECS	297	Work-based Learning Seminar	1-2
ECS	298	Work-based Learning No Seminar	1-9
INFO	101	Computer Applications Essentials	5
INFO	104	A+ Essentials	5
INFO	105	A+ Practical	5
CNST	201	Cisco Network Fundamentals	5
CNST	202	Cisco Routing Protocols and Concepts	5

Certificate of Training: 30 Credits

ELECTRONICS TECHNICIAN			CREDITS
ETECH	101	INTRODUCTION TO ELECTRONICS	2
ETECH	102	DC CIRCUITS	5
ETECH	103	AC CIRCUITS	5
ETECH	104	ANALOG CIRCUITS	5
ETECH	105	DIGITAL CIRCUITS	5
ETECH	106	MICROCONTROLLERS	5
ETECH	108	CET CERTIFICATION PREPARATION	3

Electronic Equipment Service Technician

www.bates.ctc.edu/EEST

Students prepare for careers in the electronic equipment service profession as technicians in a wide range of high tech industries, including broadcast audio, broadcast video, car audio, electronic service, medical equipment repair, office automation and video tape. Employment opportunities may also include mobile electronics installer and electronic assembler. Students acquire and hone service technician skills through extensive practice with live equipment, and prepare for industry certification as Certified Electronics Technicians, Mobile Electronics Certified Professionals, and Certified Broadcast Technologists. This program also provides extended learning opportunities for persons previously or currently employed in these and related occupations.

FACULTY

Art Cutting, Franklin Hsu

Associate in Applied Science: 91 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
EEST	101	Safety Principles	3
EEST	102	Applied Math	5
EEST	103	Electronics Principles I	5
EEST	104	DC Electronics	4
EEST	105	AC Electronics	5
EEST	106	Inductors and Capacitors	4
EEST	107	Electronics Principles II	5
EEST	108	Amplifiers and Transistors	4
EEST	109	Electronic Devices	2
EEST	110	Introduction to Programmable Logic Controllers	5
EEST	201	Electronic Principles - Automation	5
EEST	202	Antenna and Satellite Systems	3
EEST	203	Magnetic and Laser Media	3
EEST	204	RF Receivers and Audio Amps	4
EEST	205	Video Projection	1
EEST	206	Emerging Technologies	3
BMST	105	Testing Equipment	5
BMST	106	Soldering	2
BMST	107	Schematics	3
BMST	109	Applied Service I	3
BMST	110	Applied Service II	2

Electronics Technician

www.bates.ctc.edu/ElectronicsTech

Successful completion of coursework in the electronics technician program qualifies graduates to use precision test equipment and hand tools to install, maintain, test, and repair electronic equipment for a broad range of careers, including manufacturing, communications, information technologies and computers, electronic security, avionics, and defense. Students also prepare for Certified Electronic Technician (CET) testing. Note: Completion of electronics technician coursework is required before entering other advanced technologies programs at Bates. All credits earned in the electronics technician program may be applied to fulfill elective requirements for a degree in an advanced technology program at Bates Technical College.

FACULTY

David Skeen

Certificate of Training: 30 Credits

REQUIRED COURSEWORK			CREDITS
ETECH	101	Introduction to Electronics	2
ETECH	102	DC Circuits	5
ETECH	103	AC Circuits	5
ETECH	104	Analog Circuits	5
ETECH	105	Digital Circuits	5
ETECH	106	Microcontrollers	5
ETECH	107	Employment Preparation	3
ETECH	108	CET Certification Preparation	3

Facilities Maintenance Engineer

www.bates.ctc.edu/FME

Students prepare for careers in the building care and maintenance industry, including boiler operator, building repairer, facilities maintenance engineer and custodian in industrial and office buildings, hotels, schools, and government agencies. Instruction includes electricity, welding, blueprint reading, machine maintenance, grounds keeping, boiler repair and operation, HVAC/R and advanced industry applications. Major elements of the program prepare students for Class V and Class IV boiler operator/fireman certification. This is a pre-apprenticeship program for the Western Washington Operating Engineers Facilities Custodial Services Apprenticeship Committee and the Western Washington Stationary Engineers Apprenticeship Committee. The program also provides extended learning opportunities for persons previously or currently employed in these or other related professions.

FACULTY

Dale Trombley

Associate in Applied Science: 120 Credits

GENERAL EDUCATION REQUIREMENTS

	CREDITS
100+ Level Human Relations	5
100+ Level Communications	5
100+ Level Mathematics	5

REQUIRED COURSEWORK

FACM 101 Safety Principles	2
FACM 102 Fundamentals of Electricity	3
FACM 103 Electrical Service	4
FACM 104 Introduction to Blueprint Reading	5
FACM 105 Engineering Drawings	4
FACM 106 Introduction to Hydraulics/Pneumatics	5
FACM 107 Machine Components	5
FACM 108 Mechanical and Machine Maintenance	5
FACM 109 Tools and Equipment	3
FACM 111 Building Maintenance and Repair Methods	5
FACM 112 Basic Refrigeration	4
FACM 113 Introduction to Building Maintenance	3
FACM 121 Grounds Keeping	5
FACM 122 HVAC Systems	4
FACM 222 Introduction to Remodeling	4
FACM 221 Small Business Planning	3
FACM 230 Computers in Industry	2
FACM 231 Computer Applications	4
FACM 140 Boiler Operations and Certification	12
FACM 144 Advanced Boiler Operations	5
FACM 143 Advanced Projects	10
WBAS 101 Welding Basics	8

Certificate of Competency: 84-87 Credits

GENERAL EDUCATION REQUIREMENTS

	CREDITS
90+ Level Human Relations	5
90+ Level Communications	5
90+ Level Mathematics	5

REQUIRED COURSEWORK

FACM 101 Safety Principles	2
FACM 102 Fundamentals of Electricity	3
FACM 103 Electrical Service	4
FACM 104 Introduction to Blueprint Reading	5
FACM 105 Engineering Drawings	4
FACM 106 Introduction to Hydraulics/Pneumatics	5
FACM 107 Machine Components	5

	CREDITS
FACM 108 Mechanical and Machine Maintenance	5
FACM 109 Tools and Equipment	3
FACM 111 Building Maintenance and Repair Methods	5
FACM 113 Introduction to Building Maintenance	3
FACM 121 Grounds Keeping	5
FACM 222 Introduction to Remodeling	4

STUDENTS MUST CHOOSE ONE OF THE FOLLOWING OPTIONS:

Option A:

FACM 112 Basic Refrigeration	4
FACM 123 HVAC Systems II	4
FACM 221 Small Business Planning	3
FACM 230 Computers in Industry	2
FACM 231 Computer Applications	4

Option B:

FACM 140 Boiler Operations and Certification	12
FACM 144 Advanced Boiler Operations	5

Option C: Work-based Learning

FACM 143 Advanced Projects	10
WBAS 101 Welding Basics	8

BOILER OPERATIONS, Certificate of Training: 12 Credits

REQUIRED COURSEWORK

FACM 140 Boiler Operations and Certification	CREDITS	12
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BUILDING CARE AND MAINTENANCE I, Certificate of Training: 18 Credits

REQUIRED COURSEWORK

FACM 101 Safety Principles	2
FACM 102 Fundamentals of Electricity	3
FACM 103 Electrical Service	4
FACM 104 Introduction to Blueprint Reading	5
FACM 105 Engineering Drawings	4

MAINTENANCE TECHNICIAN I, Certificate of Training: 18 Credits

REQUIRED COURSEWORK

FACM 106 Introduction to Hydraulics/Pneumatics	5
FACM 107 Machine Components	5
FACM 108 Mechanical and Machine Maintenance	5
FACM 109 Tools and Equipment	3

BUILDING CARE AND MAINTENANCE II, Certificate of Training: 17 Credits

REQUIRED COURSEWORK

FACM 111 Building Maintenance and Repair Methods	5
FACM 113 Introduction to Building Maintenance	3
FACM 121 Grounds Keeping	5
FACM 222 Introduction to Remodeling	4

MAINTENANCE TECHNICIAN II, Certificate of Training: 17 Credits

REQUIRED COURSEWORK

FACM 112 Basic Refrigeration	4
FACM 123 HVAC Systems II	4
FACM 221 Small Business Planning	3
FACM 230 Computers in Industry	2
FACM 231 Computer Applications	4

Fire Protection Engineering Technology

www.bates.ctc.edu/FireProtection

Fire protection engineering technicians design and service fire sprinklers, fire alarms, and other types of in-place detection and suppression systems. The program is supplemented by preparation for NICET examinations, enabling students to choose from three career paths: Automatic Sprinkler Layout, Fire Alarm/Suppression Systems Layout, and Inspection, Testing, and Maintenance.

FACULTY

Ron Greenman

Associate in Applied Science-Transfer: 119 Credits

GENERAL EDUCATION REQUIREMENTS (AAS-T Degree)		CREDITS
MATH& 146	Introduction to Statistics	5
ENGL& 101	English Composition	5
CMST& 230	Small Group Communication	5
Humanities or Natural Science Electives (Two courses)*		10

*Transferable CTC commonly numbered humanities distribution courses, or transferrable CTC commonly numbered physics or chemistry courses

An AAS-T Degree is directly transferable by an articulation agreement with The Evergreen State College. A transferring student will enter The Evergreen State College as an upper classman but will primarily enroll in lower division, general education coursework. Upon completion the student will be eligible for a Bachelors of Technology Degree

GENERAL EDUCATION REQUIREMENTS		CREDITS
AMATH 170	Engineering Foundational Mathematics	5
ENGR 105	CAD – Two Dimensional Fundamentals	5
ENGR 106	Intro to Engineering Technology	2
ENGR 107	Introduction to Engineering Graphics	3

REQUIRED COURSEWORK		CREDITS
FPET 101	Introduction to Fire Protection Engineering	3
FPET 103	Research Methods	5
FPET 107	Alarm and Suppression System Design	5
FPET 108	Applied Math and Fire Science I	2
FPET 112	Sprinkler Design I	5
FPET 114	Inspection and Testing	3
FPET 117	Fire Protection Project/Applications I	3
FPET 118	Applied Math and Fire Science II	2
FPET 119	Applied Math and Fire Science III	2
FPET 120	Fire Protection Project/Applications II	3
FPET 122	Building Construction	4
FPET 124	Design Seminar	5
FPET 126	Codes and Standards	4
FPET 127	The Practice of Fire Protection	4
FPET 129	Calculations Seminar	5
FPET 200	Codes and Standards – Applications	3
FPET 206	Practical Applications II – Commissioning and Inspections	4
FPET 231	Projects I	3
FPET 232	Projects II	3
FPET 233	Projects III	3
FPET 234	Projects IV	3
FPET 235	Practical Applications I - Design	5

Associate in Applied Science: 109 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
MATH& 146	Introduction to Statistics	5
ENGL& 101	English Composition I	5
CMST& 230	Small Group Communications	5

REQUIRED ENGINEERING CORE

AMATH 170	Engineering Foundational Mathematics	5
ENGR 105	CAD – Two Dimensional Fundamentals	5
ENGR 106	Intro to Engineering Technology	2
ENGR 107	Introduction to Engineering Graphics	3

REQUIRED COURSEWORK

FPET 101	Introduction to Fire Protection Engineering	3
FPET 103	Research Methods	5
FPET 107	Alarm and Suppression System Design	5
FPET 108	Applied Math and Fire Science I	2
FPET 112	Sprinkler Design I	5
FPET 114	Inspection and Testing	3
FPET 117	Fire Protection Project/Applications I	3
FPET 118	Applied Math and Fire Science II	2
FPET 119	Applied Math and Fire Science III	2
FPET 120	Fire Protection Project/Applications II	3
FPET 122	Building Construction	4
FPET 124	Design Seminar	5
FPET 126	Codes and Standards	4
FPET 127	The Practice of Fire Protection	4
FPET 129	Calculations Seminar	5
FPET 200	Codes and Standards – Applications	3
FPET 206	Practical Applications II – Commissioning and Inspections	4
FPET 231	Projects I	3
FPET 232	Projects II	3
FPET 233	Projects III	3
FPET 234	Projects IV	3
FPET 235	Practical Applications I - Design	5

Certificate of Competency: 72 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
AMATH 170	Engineering Foundational Mathematics	5
ENGL 091	Integrated Reading and Writing II	5
CMST& 230	Small Group Communication	5

REQUIRED COURSEWORK

REQUIRED COURSEWORK		CREDITS
ENGR 105	CAD – Two Dimension Fundamentals	5
ENGR 106	Intro to Engineering Technology	2
ENGR 107	Intro to Engineering Graphics	3
FPET 101	Introduction to Fire Protection Engineering	3
FPET 103	Research Methods	5
FPET 107	Alarm and Suppression System Design	5
FPET 108	Applied Math and Fire Science I	2
FPET 112	Sprinkler Design I	5
FPET 114	Inspection and Testing	3
FPET 118	Applied Math and Fire Science II	2
FPET 119	Applied Math and Fire Science III	2
FPET 122	Building Construction	4
FPET 126	Codes and Standards	4
FPET 127	The Practice of Fire Protection	4
FPET 129	Calculations Seminar	5
FPET 200	Codes and Standards – Applications	3

Fire Service

www.bates.ctc.edu/Firefighter

Students prepare for careers as fire fighters, or in closely related occupations that require certification as a firefighter in this program that is accredited by the International Fire Service Accreditation Congress. Training incorporates all entry-level requirements according to nationally recognized standards.

Prerequisites:

1. Applicants must meet predetermined assessment test levels in writing, reading, algebra, mechanical reasoning, and space relations.
2. Applicants are to have good eyesight, normal color vision, and be able to pass a stringent physical examination.
3. Applicants must have a current Washington State driver's license, a good driving history, and no criminal record.
4. Students are required to maintain and show proof of medical/health insurance for the duration of Bates Fire Service educational career.

FACULTY

Brian Dodge, Pat Piper, Darrell Taylor

Associate in Applied Science: 99-105 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
FIRES	101	Orientation to Fire Service	2
FIRES	102	Firefighter Safety	4
FIRES	103	Fire Service Applications I	5
FIRES	104	Physical Fitness I	1
FIRES	105	Introduction to Fire Science	3
FIRES	106	Fire Hose and Appliances	3
FIRES	107	Fire Service Applications II	5
FIRES	108	Physical Fitness II	1
FIRES	109	Ladders	5
FIRES	110	Intermediate Fire Service	2
FIRES	111	Fire Service Applications III	4
FIRES	112	Physical Fitness III	1
FIRES	121	Wildland Firefighter	2
FIRES	123	Fire Service Applications IV	5
FIRES	124	Physical Fitness IV	1
FIRES	125	Fire Vehicle Operations	3
FIRES	201	Rescue Procedures	3
FIRES	202	Advanced Fire Service	3
FIRES	203	Fire Service Applications V	5
FIRES	204	Physical Fitness V	1
FIRES	206	Employment Preparation	2
FIRES	207	Strategy, Tactics, and Incident Management	2
FIRES	208	Fire Service Applications VI	4
FIRES	209	Healthcare Provider	1
FIRES	215	Hazardous Materials I	1
FIRES	216	Hazardous Materials II	2

Students must choose either Option I or Option II:

Option I: Advanced Firefighter			CREDITS
Fires	212	Advanced Firefighter	4
Fires	213	Physical Fitness	1
FIRES	222	Advanced Pump Operations	4
FIRES	220	Fire Service Applications VII	4

Option II: Emergency Medical Technician			CREDITS
FIRES	225	Emergency Medical Technician (EMT)	14

Certificate of Training: 15 Credits

FIRE SERVICE SUPERVISION

GENERAL EDUCATION REQUIREMENTS

			CREDITS
FIRES	240	Fire Instructor I	3
FIRES	241	Fire Safety Officer	2
FIRES	242	Fire Officer I	5
FIRES	243	Fire Officer II	5

Hearing Instrument Technology

www.bates.ctc.edu/Hearing

To apply for a hearing instrument fitter/dispenser license in Washington state, applicants must successfully complete degree requirements from an approved two-year education program. Bates' Hearing Instrument Technology program is approved by the Washington State Board of Hearing and Speech for students to prepare for careers as hearing instrument fitters/dispensers. Instruction includes professional terminology, anatomy and physiology of the normal ear, common medical disorders that may affect hearing, patient/family education, ethics, basic acoustics, hearing aid electronics and sound processing schemes. In an on-campus hearing instrument study clinic, students perform hearing assessments, assist patients in the selection, procurement and fitting of hearing aids, troubleshoot hearing aid problems and perform minor repairs. Students are also introduced to business aspects of the industry.

Prerequisites:

1. Applicants must be fully ready to enter into general education courses. This entry requirement may be satisfied by providing the registrar with official transcripts showing actual completion of general education courses, or by satisfactory completion of placement tests that enable the student to enroll directly into required general education courses.
2. To meet Washington State residency requirements for program completion, students must be enrolled in the Hearing Instrument Technology career education program at Bates Technical College for their last 1,284 hours of training.

FACULTY

Marci Leong, Au.D.

Associate in Applied Science: 109 Credits

GENERAL EDUCATION REQUIREMENTS

		CREDITS
100+ Level	Human Relations	5
100+ Level	Communications	5
100+ Level	Mathematics	5

REQUIRED COURSEWORK

		CREDITS
HEAR	110 Introduction to Hearing Professions	5
HEAR	111 Safety Practices	4
HEAR	112 Acoustics	5
HEAR	113 Hearing Assessment I	3
HEAR	120 Anatomy and Physiology	5
HEAR	121 Instrumentation	5
HEAR	122 Hearing Assessment II	3
HEAR	130 Disorders of the Auditory System	5
HEAR	131 Hearing Aids	5
HEAR	132 Audiometric Interpretation I	5
HEAR	210 Hearing Assessment III	3
HEAR	211 Aural Rehabilitation I	3
HEAR	212 Business Aspects I	5
HEAR	213 Clinical I	3
HEAR	220 Hearing Aid Evaluation	5
HEAR	221 Audiometric Interpretation II	5
HEAR	222 Hearing Aids II	5
HEAR	223 Clinical II	3
HEAR	230 Hearing Aid Service and Repair	5
HEAR	231 Aural Rehabilitation II	4
HEAR	232 Business Aspects II	4
HEAR	233 Clinical III	4

Heating, Ventilation, Air Conditioning & Refrigeration Technician

www.bates.ctc.edu/HVAC

Students prepare for certified entry-level employment in the heating, ventilation, air conditioning, and refrigeration industry. The technical skills acquired in this program may be applied in areas such as air conditioning, systems controls, energy management systems, heating and ventilation technicians, and sales. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

Note: Students are required to pass the Air Conditioning and Refrigeration Institute industry competency exam to complete the program: Two examinations to obtain a degree; one exam to obtain a certificate. Sufficient training is provided to qualify students to take the Environmental Protection Agency CFC certification examination required to work in the industry. A total of 1,100 hours of credit is applied toward the Washington State O6A electrical certificate.

FACULTY

Joe Lyon

Associate in Applied Science: 103 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
HVAC	101	HVAC Fundamentals	3
HVAC	102	Safety	2
HVAC	103	HVAC/R Science	2
HVAC	104	Tools and Equipment	4
HVAC	105	Refrigerant and Refrigeration Systems I	4
HVAC	106	Refrigerant and Refrigeration Systems II	3
HVAC	107	Electrical Systems and Components	5
HVAC	108	Electrical Troubleshooting	3
HVAC	109	Soldering and Brazing Applications	3
HVAC	110	Residential Systems	5
HVAC	111	Light Commercial Systems	5
HVAC	112	Heat Pump Systems	4
HVAC	201	System Design, Sizing, and Layout	4
HVAC	210	Drafting and Blueprint Applications	4
HVAC	211	Commercial Environmental Systems	5
HVAC	212	Chilled Water Systems	2
HVAC	213	Hydronic Heating Systems	2
HVAC	214	Cooling Tower	1
HVAC	215	Thermal Storage	2
HVAC	216	CFC Exam Preparation	1
HVAC	217	Commercial Refrigeration	3
HVAC	218	Installation, Maintenance, and Troubleshooting	2
HVAC	219	AHRI Industry Competency Exam #1	3
HVAC	220	AHRI Industry Competency Exam #2	3
HVAC	221	Industry Math	5

Students must choose one option:

Option A:			CREDITS
HVAC	202	Welding Processes	2
HVAC	203	Hand-held Torch Burning Applications	2
HVAC	204	SMAW (ARC) Applications	2
HVAC	205	GMAW (MIG) applications	2

Option B:			CREDITS
HVAC	206	Basic Metalworking	2
HVAC	207	Basic Layout and Patterns	2
HVAC	208	Fabrication Practices	2
HVAC	209	Air Balance and Duct Sizing	2

HVAC/R Support Technician Certificate of Competency: 99 Credits

HVAC/R SUPPORT TECHNICIAN GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
HVAC	101	HVAC Fundamentals	3
HVAC	102	Safety	2
HVAC	103	HVAC/R Science	2
HVAC	104	Tools and Equipment	4
HVAC	105	Refrigerant and Refrigeration Systems I	4
HVAC	106	Refrigerant and Refrigeration Systems II	3
HVAC	107	Electrical Systems and Components	5
HVAC	108	Electrical Troubleshooting	3
HVAC	109	Soldering and Brazing Applications	3
HVAC	110	Residential Systems	5
HVAC	111	Light Commercial Systems	5
HVAC	112	Heat Pump Systems	4
HVAC	210	Drafting and Blueprint Applications	4
HVAC	211	Commercial Environmental Systems	5
HVAC	212	Chilled Water Systems	2
HVAC	213	Hydronic Heating Systems	2
HVAC	214	Cooling Tower	1
HVAC	215	Thermal Storage	2
HVAC	216	CFC Exam Preparation	1
HVAC	217	Commercial Refrigeration	3
HVAC	218	Installation, Maintenance, and Troubleshooting	2
HVAC	219	AHRI Industry Competency Exam #1	3
HVAC	220	AHRI Industry Competency Exam #2	3
HVAC	221	Industry Math	5

Students must choose one option:

Option A:			CREDITS
HVAC	202	Welding Processes	2
HVAC	203	Hand-held Torch Burning Applications	2
HVAC	204	SMAW (ARC) Applications	2
HVAC	205	GMAW (MIG) applications	2

Option B:			CREDITS
HVAC	206	Basic Metalworking	2
HVAC	207	Basic Layout and Patterns	2
HVAC	208	Fabrication Practices	2
HVAC	209	Air Balance and Duct Sizing	2

Industrial Electronics and Robotics Technician

www.bates.ctc.edu/IERT

The Industrial Electronics and Robotics Technician program prepares students for apprenticeships with electric utilities by offering both a one-year Electrical Technician certificate and a two-year Industrial Technology degree. The program features equipment and software from industry leaders such as Allen Bradley, Rockwell Automation, FANUC Robotics, Bosch, Siemens, Famic Technologies, and National Instruments. The automation portion of the program focuses on the intelligent control of machines and processes using programmable logic controllers (PLCs), embedded controllers, variable frequency drives (VFDs), industrial networks, sensors & transducers, instrumentation and robotics. The electrical curriculum is based on guidelines from the National Joint Apprenticeship Training Committee (NJATC) for electrical trades. The program also offers in-depth career training for those interested in becoming an electronics technician in the manufacturing, scientific, aerospace, or civilian military industries.

FACULTY

Landon Johnson, Tom Newman

Associate in Applied Science: 119 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Mathematics	5
100+	Level	Communications	5

REQUIRED COURSEWORK

IERT	101	Introduction to Industrial Robots	5
IERT	104	Basic Blueprint Reading	3
IERT	106	Introduction to Numeric Controls	3
IERT	108	Basic Precision Measuring Tools	1
IERT	110	Electricity and Magnetism	2
IERT	115	DC Circuit Analysis	5
IERT	118	Fluid Power	5
IERT	120	Alternating Current	2
IERT	121	Practical CNC	5
IERT	122	Servo Systems	5
IERT	123	Metal Fabrication	5
IERT	125	AC Circuit Analysis	5
IERT	126	Analog Electronics	5
IERT	128	Polyphase AC Power Generation and Distribution	5
IERT	135	Mechanics	3
IERT	140	Motors and Control Systems	5
IERT	145	Construction Practices, The NEC, and UL Guides	5
IERT	212	Digital Logic	5
IERT	215	Programmable Logic Controllers	5
IERT	225	Sensors and Transducers	3
IERT	230	Programming Methodologies	2
IERT	238	Embedded Controllers	5
IERT	240	Industrial Robotics	5
IERT	255	Instrumentation	5
IERT	268	Industrial Networks	5

Certificate of Competency: 57 Credits

ELECTRICAL TECHNICIAN

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

IERT	110	Electricity and Magnetism	2
IERT	115	DC Circuit Analysis	5
IERT	118	Fluid Power	5
IERT	120	Alternating Current	2
IERT	125	AC Circuit Analysis	5
IERT	126	Analog Electronics	5
IERT	128	Polyphase AC Power Generation and Distribution	5
IERT	135	Mechanics	3
IERT	140	Motors and Control Systems	5
IERT	145	Construction Practices, the NEC, and UL Guides	5

Certificate of Training: 14 Credits

BASIC ELECTRICITY

GENERAL EDUCATION REQUIREMENTS			CREDITS
IERT	110	Electricity and Magnetism	2
IERT	115	DC Circuit Analysis	5
IERT	120	Alternating Current	2
IERT	125	AC Circuit Analysis	5

Certificate of Training: 18 Credits

FUNDAMENTALS OF PROGRAMMABLE LOGIC CONTROLLERS

GENERAL EDUCATION REQUIREMENTS			CREDITS
IERT	130	Introduction to Electronic Equipment Technology	3
IERT	131	Electrical Safety	2
IERT	132	Industrial Electricity	3
IERT	134	Electrical Circuits I	5
IERT	136	Programmable Logic Controllers	5

Certificate of Training: 19 Credits

UAV OPERATIONS

GENERAL EDUCATION REQUIREMENTS			CREDITS
IERT	109	UAV Operations I	5
IERT	110	Electricity and Magnetism	2
IERT	135	Mechanics	3
IERT	238	Embedded Controllers	5
IERT	245	UAV Operations II	4

Industrial Trades: I-BEST

The Industrial Trades I-BEST program prepares students for entry into the high demand, high wage industry of machining, manufacturing, and other related industries. Students receive skills training in industry-specific mathematics, welding, and employment success strategies.

Certificate of Training: 19 Credits

REQUIRED COURSEWORK

			CREDITS
AMATH	101	Trades Math	3
AMATH	102	Precision Measurement	3
IBEST	105	Success Strategies	5
WBAS	101	Welding Basics	8

Information Technology Specialist

www.bates.ctc.edu/ITSpecialist

Information technologies specialists are an integral part of nearly every industry in today's technology-dominated workplace. Students in this program prepare for careers that focus on PC and network support with emphasis on both practical experience and certification preparation, including LAN/WAN administrator, network system support specialist. Students are encouraged to obtain Microsoft, Cisco, and CompTIA, certifications. Possible certifications students can obtain include, A+, MCITP, MCP, MCDST, MCSE, and MCSA.

Note: Bates Technical College is an official Cisco Networking Academy.

FACULTY

Emmett Peterson

Associate in Applied Science: 112 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
INFO	101	Computer Applications Essentials	5
INFO	102	Fundamentals of Information Technology	4
INFO	103	Internet Applications	5
INFO	104	A+ Essentials	5
INFO	105	A+ Practical	5
INFO	106	Electronics Basics	5
INFO	107	Structured Cabling	3
INFO	110	Emerging Technologies	5
INFO	111	Practical Applications	5
CNST	206	MS Client Operating Systems	5
CNST	207	Network Infrastructure	5
CNST	209	Directory Services	5
CNST	210	Network Security	5
CNST	201	Cisco Network Fundamentals	5
CNST	202	Cisco Routing Protocols and Concepts	5
CNST	205	Fundamentals of Linux	5

Students must chose 20 credits from the electives list.

ELECTIVES LIST

			CREDITS
CNST	203	Cisco LAN Switching and Wireless	5
CNST	204	Cisco – Accessing the WAN	5
INFO	108	Project Management	5
INFO	292	Independent Projects	1-5
ECS	201	Telecommunications Network Cabling	5
ECS	202	Fiber Optics	5
ECS	249	Job Search and Preparation	3

Machinist

www.bates.ctc.edu/Machinist

Machinists produce precision parts, tools, and instruments utilizing both manual and computerized machining systems. For over sixty years, the machinist program has prepared students for apprentice positions through local apprenticeship agencies. Instruction contains extensive hands-on experience in the use of traditional precision tooling and machining equipment, as well as sophisticated, state-of-the-art technology including CNC lathes, CNC milling machines, and program-specific software. The program also provides extended learning opportunities for persons previously or currently employed in related professions.

FACULTY

Steve Rose, Bob Storrar

Associate in Applied Science: 101 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5

REQUIRED CORE

MACH	116	Introduction to Machining Technology	3
MACH	117	Measurement Applications	5
MACH	118	Geometric Dimensioning and Tolerancing	5
MACH	119	Blueprint Reading I	5
MACH	120	Machine Shop Mathematics II	5

REQUIRED COURSEWORK

MACH	111	Machine Shop Mathematics I	2
MACH	112	Industrial Safety I	3
MACH	114	Lathe Operations I	4
MACH	121	Lathe Operations II	4
MACH	122	Grinding I	2
MACH	123	Machining I	2
MACH	124	Milling I	2
MACH	126	Blueprint Reading I	2
MACH	131	Industrial Safety II	2
MACH	133	Milling Operations II	3
MACH	134	Advanced Machining I	4
MACH	137	Advanced Machining II	2
MACH	139	Grinding II	2
MACH	142	Advanced Machine Shop Applications	8
		OR	
WBAS	101	Welding Basics	
MACH	211	Machining III	1
MACH	212	Manufacturing Support	1
MACH	213	Advanced Machining III	5
MACH	221	CNC Lathe I	2
MACH	225	CNC Lathe II	3
MACH	230	CNC Mill I	4
MACH	224	Computer-Aided Manufacturing (CAM)	5
MACH	234	CNC Mill II	5
MACH	232	Advanced CNC Machining I	5
MACH	233	Advanced CNC Machining II	5

Certificate of Competency: 65 Credits

MANUAL MACHINING

GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5

REQUIRED CORE

MACH	116	Introduction to Machining Technology	3
MACH	117	Measurement Applications	5
MACH	118	Geometric Dimensioning and Tolerancing	5
MACH	119	Blueprint Reading I	5
MACH	120	Machine Shop Mathematics II	5

REQUIRED COURSEWORK

MACH	111	Machine Shop Mathematics I	2
MACH	112	Industrial Safety I	3
MACH	114	Lathe Operations I	4
MACH	121	Lathe Operations II	4
MACH	122	Grinding I	2
MACH	123	Machining I	2
MACH	124	Milling I	2
MACH	126	Blueprint Reading I	2
MACH	131	Industrial Safety II	2
MACH	133	Milling Operations II	3
MACH	134	Advanced Machining I	4
MACH	137	Advanced Machining II	2
MACH	139	Grinding II	2
MACH	142	Advanced Machine Shop Applications	8
		OR	
WBAS	101	Welding Basics	

Marketing & Business Management

www.bates.ctc.edu/Marketing

Students prepare for careers in sales, advertising, merchandising, customer service, market research, business and management, and public relations. When available, work-based learning activities provide students with the opportunity to work in Puget Sound businesses. Major projects allow students to apply competencies such as preparing formal business plans, performing research studies, and developing advertising campaigns. This program also provides extended learning opportunities to persons previously or currently employed in these and related professions.

FACULTY

Kathy Brock

Associate in Applied Science: 105 – 108 – 110 Credits

Associate of Applied Science - Transfer: 110 – 113 – 115 Credits

GENERAL EDUCATION REQUIREMENTS (AT Degree) CREDITS

100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

GENERAL EDUCATION REQUIREMENTS (AAS-T Degree)

100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5
100+	Level	Humanities/Social Sciences	5

REQUIRED COURSEWORK

			CREDITS
MARK	101	Marketing Principles	5
MARK	102	Customer Service	5
MARK	103	Written Business Communication	3
MARK	104	Business Negotiations and Collaboration	3
MARK	105	Information Research and Acquisition	1
MARK	106	Business Concepts	5
MARK	107	Cross Cultural Communications	5
MARK	108	International Trade Practices	5
MARK	109	Economics: A Marketing Perspective	5
MARK	110	Principles of Management and Supervision	5
MARK	111	Cyber Marketing/E-Commerce	5
MARK	112	Business Law	5
MARK	113	Accounting Principles	5

Students must choose one option:

Option A - Marketing

MARK	121	Branding/Corporate Identity	2
MARK	122	Advertising: Creation and Planning	4
MARK	123	Business Software Applications	3
MARK	124	Sales Strategies and Consumer Psychology	5
MARK	125	Business and Marketing Presentation Skills	3
MARK	126	Planning and Leadership	5
MARK	127	Public Relations	3
MARK	128	Marketing Research and Forecasting	3
MARK	129	Advanced Marketing Projects	5

Option B: Business Management

MARK	201	Introduction To Leadership Skills and Ethics	3
MARK	202	Introduction To Strategic Marketing	4
MARK	203	Introduction To Business Accounting/Finance	5
MARK	204	Introduction To Presentation and Facilitation Skills	3
MARK	205	Advanced Business Projects	5
MARK	206	Teaming for Success	3
MARK	207	Introduction To Managing Change	3
MARK	208	Achieving Results Through Influence	3
MARK	209	Entrepreneurial Concepts	5
MARK	210	Introduction to Project Management	4

Option C: International Commerce

MARK	221	International Business Law	2
MARK	222	Supply Chain Operations	5
MARK	223	Supply Chain Risk Management	2
MARK	224	Supply Chain Intermediaries	5
MARK	225	International Marketing	3
MARK	226	Offshore Procurement Process	2
MARK	227	International Market Research and Planning	3
MARK	228	Global Trade Financing	5
MARK	229	International Payment, Credit, and Collections	5
MARK	230	Advanced Projects - Marketing Plan Implementation	4

Certificate of Competency: 49 Credits

SALES AND CUSTOMER SERVICE

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

			CREDITS
MARK	101	Marketing Principles	5
MARK	102	Customer Service	5
MARK	103	Written Business Communication	3
MARK	105	Information Research and Acquisition	1
MARK	106	Business Concepts	5
MARK	122	Advertising: Creation and Planning	4
MARK	123	Business Software Applications	3
MARK	124	Sales Strategies and Consumer Psychology	5
MARK	125	Business and Marketing Presentation Skills	3

Mechanical Engineering

www.bates.ctc.edu/MechanicalEngineer

Students prepare for careers as engineering technicians with an emphasis on mechanical systems. Instruction focuses on computer-aided drafting and design (CADD). Students have opportunities to work on community and college projects that may include patent application drawings and detailed machine shop production drawings. Extended learning opportunities are available with industry partners

Program Prerequisite: COMPASS Pre-algebra 55 and Reading 80 or approved transition from basic studies

FACULTY

Curt Meyer

Associate in Applied Science - Transfer: 118 Credits

GENERAL EDUCATION REQUIREMENTS CREDITS

MATH&	141	Precalculus I	
		-or-	5
MATH&	142	Precalculus II	
ENGL&	101	English Composition I	5
CMST&	210	Interpersonal Communications	
		-or-	5
CMST&	230	Small Group Communications	
		-or-	
PSYC&	100	General Psychology	
		Humanities or Natural Science Electives (Two Courses) 10	
HIST	101	History of Science and Technology, or	

*Transferable CTC commonly numbered humanities distribution course or transferable CTC commonly numbered physics or chemistry course.

ENGINEERING CORE REQUIREMENTS CREDITS

AMATH	170	Engineering Foundational Mathematics	5
ENGR	105	CAD – Two Dimension Fundamentals	5
ENGR	106	Intro to Engineering Technology	2
ENGR	107	Intro to Engineering Graphics	3

REQUIRED COURSEWORK

MET	105	Orthographic Projections	7
MET	106	Sectional Views	5
MET	107	Auxiliary Views	5
MET	108	Principles of Dimensioning	4
MET	110	Dimensioning Practices	7
MET	111	Geometric Dimensioning and Tolerancing	5
MET	112	Basic Geometric Constructions	6
MET	114	Introduction to Sketching	5
MET	214	Engineering Projects I	7
MET	215	Axonometric and Oblique Projections	5
MET	216	Engineering Projects II	7

ELECTIVE COURSEWORK OPTIONS: (Students must choose one option listed below.)

Option A

MET	201	Machine Shop Drawings	4
MET	202	Threads, Fasteners, and Springs	3
MET	203	Gears	4
MET	204	Cams	4

Option B

MET	205	Pneumatic/Hydraulic Symbols	3
MET	206	Piping and Instrumentation Drawings	4
MET	207	Valve Sections	4
MET	208	Pump Sections	4

Option C

MET	209	Production Drawings	4
MET	210	Duct Fitting Symbols	3
MET	211	Flat Pattern Development	5
MET	212	Basic Air Flow Systems	3

Associate in Applied Science: 108 Credits

GENERAL EDUCATION REQUIREMENTS CREDITS

MATH&	141	Precalculus I	
		-or-	5
MATH&	142	Precalculus II	
ENGL&	101	English Composition I	5
CMST&	210	Interpersonal Communications	
		-or-	5
CMST&	230	Small Group Communications	
		-or-	
PSYC&	100	General Psychology	

ENGINEERING CORE REQUIREMENTS CREDITS

AMATH	170	Engineering Foundational Mathematics	5
ENGR	105	CAD – Two Dimension Fundamentals	5
ENGR	106	Intro to Engineering Technology	2
ENGR	107	Intro to Engineering Graphics	3

REQUIRED COURSEWORK

MET	105	Orthographic Projections	7
MET	106	Sectional Views	5
MET	107	Auxiliary Views	5
MET	108	Principles of Dimensioning	4
MET	110	Dimensioning Practices	7
MET	111	Geometric Dimensioning and Tolerancing	5
MET	112	Basic Geometric Constructions	6
MET	114	Introduction to Sketching	5
MET	214	Engineering Projects I	7
MET	215	Axonometric and Oblique Projections	5
MET	216	Engineering Projects II	7

ELECTIVE COURSEWORK OPTIONS: (Students must choose one option listed below.)

Option A

MET	201	Machine Shop Drawings	4
MET	202	Threads, Fasteners, and Springs	3
MET	203	Gears	4
MET	204	Cams	4

Option B

MET	205	Pneumatic/Hydraulic Symbols	3
MET	206	Piping and Instrumentation Drawings	4
MET	207	Valve Sections	4
MET	208	Pump Sections	4

Option C

MET	209	Production Drawings	4
MET	210	Duct Fitting Symbols	3
MET	211	Flat Pattern Development	5
MET	212	Basic Air Flow Systems	3

Occupational Therapy Assistant

www.bates.ctc.edu/OTA

Occupational therapy assistants work under the direction of occupational therapists to provide services to persons whose lives have been challenged due to injury, illness, developmental deficits or aging. Occupational therapy assistants view individuals in a holistic manner and help people prevent, lessen or overcome disabilities so they are able to function more independently in every aspect of daily living. Occupational therapy assistants use therapeutic activities and exercises to improve a client's skills for performing a variety of important everyday tasks safely and independently in their role at work, home, school, and in the community. Students in this program receive fundamental skills in occupational therapy and extensive clinical training. Successful completion of the program prepares students for careers as occupational therapy assistants in hospitals, out-patient clinics, rehabilitation centers, mental health centers, assisted living and nursing care facilities, and school systems.

To apply for enrollment, applicants must:

1. Have a high school diploma or a GED and be at least 18 years of age.
2. Be college-level ready.
3. Provide documentation of at least 15 hours of work, volunteer, or job shadow experience in an occupational therapy setting.
4. Provide a letter of recommendation from an employer or instructor who has known the applicant for at least six months and who can attest to the applicant's potential for success in the OT profession and the OTA program.

To be approved for program entry, students must:

1. Have completed the OTA foundation coursework with a grade of 3.0 or better.
2. Provide documented evidence of current immunizations and TB testing.
3. Provide documented evidence of medical and dental health clearance.
4. Provide documented evidence of personal health insurance.
5. Provide documented evidence of liability insurance coverage.
6. Pass a national criminal background check.

PROGRAM DIRECTOR

Denise Tremblay

FACULTY

Aimee Sidhu, Phyllis Lang

Associate in Applied Science: 120 Credits

REQUIRED COURSEWORK		CREDITS
ENGL& 100+	English Composition course	5
MATH 100+	Mathematics	5
PSYC& 200	Lifespan Psychology	5
BIOL 170	Medical Terminology	2
BIOL& 175	Survey of A&P	5

(These courses must be completed with a minimum grade of 3.0 before enrolling in the OTA core coursework.)

REQUIRED CORE COURSEWORK

		CREDITS
OTA 102	Health and Wellness and the OTA	3
OTA 103	Functional Movement	5
OTA 104	Therapeutic Use of Self	5
OTA 105	Nervous System Function	4
OTA 106	Therapeutic Activities and Performance I	5
OTA 107	Developmental Disabilities - Treatment and Applications	5
OTA 108	Applied Experience I-A	1
OTA 109	Adaptive Technologies	5
OTA 110	Documentation Skills	3
OTA 111	Introduction to Occupational Therapy	5
OTA 201	Therapeutic Activities and Performance II	5
OTA 202	Psychosocial Dysfunctions: Treatment and Applications	8
OTA 203	Applied Experience - I-B	1
OTA 204	Seminar - Applied Mental Health	1
OTA 210	Physical Disabilities: Treatment and Applications	8
OTA 212	Applied Experience - I-C	1
OTA 213	Seminar - Applied Physical Rehabilitation	1
OTA 220	Clinical Fieldwork Level II - Rotation A	11
OTA 221	Clinical Fieldwork Level II - Seminar A	1
OTA 222	Clinical Fieldwork Level II - Rotation B	11
OTA 223	Clinical Fieldwork Level II - Seminar B	1
OTA 231	OTA and Special Settings	4
OTA 232	Professional Issues for the OTA	4

The Occupational Therapy Assistant program at Bates is accredited with the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), www.acoteonline.org, located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number is 301.652.2682.

Our graduates are eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a certified occupational therapy assistant (COTA). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certificate Examination.

Note that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Power Sports & Equipment Technology

www.bates.ctc.edu/PowerSports

Students in the program prepare for careers in the power sports and power equipment industries. Technicians in these areas maintain and repair a variety of two- and four-cycle engines, power trains, and chassis.

Power Sports: Maintenance and repair of power sports vehicles such as motorcycles, sport utility vehicles, all-terrain vehicles, personal watercraft, and boats for employment in dealerships, independent repair shops, and self-employment.

Power Equipment: Maintenance and repair of outdoor power equipment, including lawn and garden equipment and light industrial/commercial equipment. Employment may be in lawn and garden stores, department stores, rental companies, landscaping companies, golf courses, fleet repair facilities, government agencies, and self-employment.

FACULTY

Matthew Spitzer

Associate in Applied Science: 111 Credits

GENERAL EDUCATION REQUIREMENTS			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
POW	101	Introduction to Power Sports	5
POW	102	Pre-Delivery Maintenance	3
POW	103	Seasonal Maintenance	5
POW	104	Periodic Maintenance	5
POW	120	Engines – Failure Analysis	5
POW	121	Engine Repair Methods	5
POW	122	Engines Installation Methods	5
POW	130	Exhaust Systems	5
POW	131	Lubrication/Cooling Systems	5
POW	132	Advanced Engine Service	5
POW	140	Fundamentals of Electricity	3
POW	141	Electrical Systems	5
POW	142	Electrical Systems - Diagnosis	5
POW	143	Brake Systems	4
POW	150	Introduction to Power Trains	3
POW	151	Power Train Service	5
POW	152	Introduction to Marine Propulsion	3
POW	153	Marine Propulsion Service	5
POW	160	Introduction to Chassis	3
POW	161	Chassis Service	5
POW	162	Advanced Projects*	7

*This course may be substituted with a work-based learning component.

Certificate of Competency: 80 Credits

POWER SPORTS AND EQUIPMENT TECHNICIAN

GENERAL EDUCATION REQUIREMENTS			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK			CREDITS
POW	101	Introduction to Power Sports	5
POW	102	Pre-Delivery Maintenance	3
POW	103	Seasonal Maintenance	5
POW	104	Periodic Maintenance	5
POW	120	Engines – Failure Analysis	5
POW	121	Engine Repair Methods	5
POW	122	Engines Installation Methods	5
POW	130	Exhaust Systems	5
POW	131	Lubrication/Cooling Systems	5
POW	132	Advanced Engine Service	5
POW	140	Fundamentals of Electricity	3
POW	141	Electrical Systems	5
POW	142	Electrical Systems - Diagnosis	5
POW	143	Brake Systems	4

Practical Nurse

www.bates.ctc.edu/PracticalNurse

Students prepare for careers as licensed practical nurses in a variety of healthcare settings. Clinical activities are an integral part of this program which is approved by the Washington Nursing Care Quality Assurance Commission. During the clinical phase, students demonstrate nursing competencies under supervision at clinical sites and improve skills by working with a healthcare professional in a preceptorship role. Graduates are required to pass the Washington State Practical Nursing licensing exam to practice as licensed practical nurses in Washington State. Prior to licensing exam, applicant will need to provide proof of high school graduation or equivalent.

Prerequisites:

Applicants must:

1. Pass a clear National Criminal background check covering Washington state.
2. Obtain medical and dental clearance.
3. Pass a drug screen.
4. Provide documentary evidence of current immunizations, medical insurance (illness and injury), Health Care Provider CPR.
5. Possess current liability insurance coverage in the amount of \$1 million.
6. AIDS/HIV Training - seven hours.

Program Director

Dianne Nauer

FACULTY

Various

Associate in Applied Science: 112-120 Credits

GENERAL EDUCATION REQUIREMENTS

CREDITS

(These courses must be completed before enrolling in the PNUR coursework.)

BIOL&	241	Human A & P I	5
BIOL&	242	Human A & P 2	5
BIOL&	260	Microbiology	5
CHEM&	121	Intro to Chemistry	5
CMST&	210	Interpersonal Communications	5
CTNA	101	Nursing Assistant Certified *	8
ENGL&	101	English Composition	5
PSYC&	200	Lifespan Psychology	5
100+	Level	Mathematics **	5

REQUIRED COURSEWORK

CREDITS

MEDICAL SURGICAL NURSING I

(All PNUR coursework must be completed with a 3.2 grade or better.)

PNUR	102	Basic Nutrition	4
PNUR	103	Nursing Math/Pharmacology	6
PNUR	105	Personal Vocational Relationships I	1
PNUR	106	Nursing Fundamentals I	7
PNUR	107	Principles of Geriatric/Medical Surgical Nursing 2	

MEDICAL SURGICAL NURSING II

CREDITS

PNUR	122	Personal Vocational Relationships II	2
PNUR	123	Respiratory Care	3
PNUR	126	Cardiovascular Disorders	4
PNUR	127	Nursing Fundamentals II	4
PNUR	128	Clinical I	3
PNUR	220	Endocrinology/Care of the Diabetic Patient	3

MEDICAL SURGICAL NURSING III

CREDITS

PNUR	130	Nursing Simulation Lab	2
PNUR	131	Mental Health Issues	2
PNUR	136	Gastrointestinal	2
PNUR	137	Genitourinary	2
PNUR	139	Clinical II	2
PNUR	140	Advanced Clinical II	3
PNUR	232	Newborn/Maternal/Reproductive Nursing	3
PNUR	233	Orthopedics	2

MEDICAL SURGICAL NURSING IV

CREDITS

PNUR	144	Legal/Boundaries	1
PNUR	145	Clinical III	2
PNUR	147	Preceptorship	4
PNUR	148	Pediatrics	3
PNUR	149	Neurology/Ophthalmology/Audiology	4
PNUR	150	Perioperative Nursing	1

* This course may be waived with active proof of NAC license or proof of completion of NAC Skills Set training.

**Students should consult with the program director for guidance in determining the appropriate math course.

Sheet Metal Technology

www.bates.ctc.edu/SheetMetal

Bates offers the only program in the region that prepares students for apprenticeship employment in the sheet metal industry. Customer projects completed in the classroom, shop, and the field, provide students with the necessary foundational skills to succeed in this high demand and rewarding occupation. Instruction includes equipment operation, fabrication and installation of various ventilation systems, blueprint reading, computer-aided drafting, air distribution, and material handling. This is a pre-apprenticeship program for the Western Washington Sheet Metal Joint Apprenticeship Training Committee. Students who complete all required elements of the selected Sheet Metal Technology course offerings will be awarded direct entry into the Western Washington Sheet Metal JATC Local 66 building trades or residential apprenticeship program. Students will be placed at the end of the out of work list. Prior educational credits are recognized upon entrance into the apprenticeship.

FACULTY

Steve MacKay

Associate in Applied Science: 118 Credits

GENERAL EDUCATION REQUIREMENTS

			CREDITS
100+	Level	Human Relations	5
100+	Level	Communications	5
100+	Level	Mathematics	5

REQUIRED COURSEWORK

SHME	101	Introduction to Sheet Metal Technology	3
SHME	102	Metalworking Machines Technology	4
SHME	103	Fittings Fabrication I	7
SHME	104	Principles of Health and Safety	5
SHME	105	Materials Technology	3
SHME	106	Hand Tools and Equipment	4
SHME	107	Applied Math	5
SHME	108	Introduction to Drafting	2
SHME	109	Drafting Techniques	5
SHME	110	Layout Math	3
SHME	111	Technology of Seams and Locks	3
SHME	112	Fittings Fabrication II	8
SHME	212	Introduction to Architectural Sheet Metal	4
SHME	213	Introduction to Blueprint Reading	4
SHME	203	Blueprint Reading Applications	5
SHME	214	Layout Drafting II	4
SHME	215	Layout Drafting III	4
SHME	218	Complex Components Fabrication	4
SHME	217	Energy Codes	2
SHME	218	Duct Design and Air Balancing - Basics	4
SHME	219	Duct Design and Air Balancing - Advanced	4
SHME	210	Solar Heating	2
SHME	221	Commercial Projects	5
WBAS	101	Welding Basics	8

Certificate of Competency: 118 Credits

SHEET METAL TECHNOLOGY

GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

SHME	101	Introduction to Sheet Metal Technology	3
SHME	102	Metalworking Machines Technology	4
SHME	103	Fittings Fabrication I	7
SHME	104	Principles of Health and Safety	5
SHME	105	Materials Technology	3
SHME	106	Hand Tools and Equipment	4
SHME	107	Applied Math	5
SHME	108	Introduction to Drafting	2
SHME	109	Drafting Techniques	5
SHME	110	Layout Math	3
SHME	111	Technology of Seams and Locks	3
SHME	112	Fittings Fabrication II	8
SHME	212	Introduction to Architectural Sheet Metal	4
SHME	202	Introduction to Blueprint Reading	3
SHME	203	Blueprint Reading Applications	5
SHME	214	Layout Drafting II	4
SHME	215	Layout Drafting III	4
SHME	206	Complex Components Fabrication	5
SHME	217	Energy Codes	2
SHME	218	Duct Design and Air Balancing - Basics	4
SHME	219	Duct Design and Air Balancing - Advanced	4
SHME	210	Solar Heating	2
SHME	221	Commercial Projects	5
WBAS	101	Welding Basics	8

Sheet Metal Technology (continued)

Certificate of Competency: 94 Credits

SHEET METAL TECHNICIAN

GENERAL EDUCATION REQUIREMENTS

			CREDITS
90+	Level	Human Relations	5
90+	Level	Communications	5
90+	Level	Mathematics	5

REQUIRED COURSEWORK

SHME	101	Introduction to Sheet Metal Technology	3
SHME	102	Metalworking Machines Technology	4
SHME	103	Fittings Fabrication I	7
SHME	104	Principles of Health and Safety	5
SHME	105	Materials Technology	3
SHME	106	Hand Tools and Equipment	4
SHME	107	Applied Math	5
SHME	108	Introduction to Drafting	2
SHME	109	Drafting Techniques	5
SHME	111	Technology of Seams and Locks	3
SHME	112	Fittings Fabrication II	8
SHME	202	Introduction to Blueprint Reading	3
SHME	203	Blueprint Reading Applications	5
SHME	204	Layout Drafting II	3
SHME	205	Layout Drafting III	3
SHME	207	Energy Codes	3
SHME	218	Duct Design and Air Balancing - Basics	4
WBAS	101	Welding Basics	8

Certificate of Training: 42 Credits

SHEET METAL PRODUCTION SUPPORT

REQUIRED COURSEWORK

			CREDITS
SHME	102	Metalworking Machines Technology	4
SHME	103	Fittings Fabrication I	7
SHME	105	Materials Technology	3
SHME	106	Hand Tools and Equipment	4
SHME	107	Applied Math	5
SHME	111	Technology of Seams and Locks	3
SHME	112	Fittings Fabrication II	8
WBAS	101	Welding Basics	8

Certificate of Training: 44 Credits

SHEET METAL RESIDENTIAL INSTALLATIONS

REQUIRED COURSEWORK

			CREDITS
SHME	120	Introduction to Sheet Metal Technology	3
SHME	121	Principles of Health and Safety	2
SHME	122	Hand Tools and Equipment	3
SHME	123	Metalworking Machines Technology	2
SHME	124	Fittings Fabrication I	4
SHME	125	Applied Math	3
SHME	126	Technology of Seams and Locks	2
SHME	127	Prefabricated Components	2
SHME	128	Material Handling Technology	2
SHME	129	Wood Working Tools	1
SHME	130	Carpentry Installation	3
SHME	131	Air Properties Technology	1
SHME	132	Duct installation	3
SHME	133	Residential Venting Technology	2
SHME	134	Unit Operations	2
SHME	135	Code Principles	2
SHME	136	Gas Piping Technology	2
SHME	137	Duct Design Technology	3
SHME	138	Preventive Maintenance	2

Software Development

www.bates.ctc.edu/SoftwareDevelopment

Instruction in the Software Development program includes designing, coding, and implementing software applications in a variety of programming languages: Unix, SQL, Java, C Sharp, C++. In addition, students build skills in problem-solving, attention to detail, communication and teamwork.

FACULTY

Dan Achman, Judith Graham

Associate in Applied Science - Transfer: 110 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
MATH&	146 Introduction to Stats	5
MATH&	141 Precalculus I	5
ENGL&	101 College Composition	5
Social Sciences/Communications Studies:		5
SOC&	101 Introduction to Sociology, or	
CMST&	210 Interpersonal Communications, or	
PSYC&	100 General Psychology	
Humanities		5
ART&	100 Art Appreciation, or	
HIST	101 History of Science and Technology, or	
ASL&	101 American Sign Language I	

REQUIRED COURSEWORK

CS&	141 Computer Science I - JAVA	5
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL I	5
SOFT	101 Computer Concepts	5
SOFT	102 Programming Fundamentals	5
SOFT	103 Operating Systems	5
SOFT	121 C-Sharp I	5
SOFT	122 C-Sharp II	5
SOFT	132 C++	5
SOFT	142 Programming in JAVA II	5
SOFT	204 Open Source Programming	5
SOFT	207 Dynamic Web Pages	5
SOFT	208 Principles of Systems Analysis and Design	5
SOFT	209 Emerging Technologies	5
SOFT	210 Mobile Device Programming	5
WEB	101 Microsoft Office Applications	5
WEB	102 HTML, XHTML and CSS	5
SOFT	290 Capstone Project	5

Associate in Applied Science: 110 Credits

GENERAL EDUCATION REQUIREMENTS		CREDITS
Human Relations:		5
SOC&	101 Introduction to Sociology, or	
CMST&	210 Interpersonal Communications, or	
PSYC&	100 General Psychology	
Communications		5
ENGL&	101 College Composition	
Computations		10
MATH&	146 Introduction to Stats, and	
MATH&	141 Precalculus I	

REQUIRED COURSEWORK

CS&	141 Computer Science I - JAVA	5
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL I	5
SOFT	101 Computer Concepts	5
SOFT	102 Programming Fundamentals	5
SOFT	103 Operating Systems	5
SOFT	121 C-Sharp I	5
SOFT	122 C-Sharp II	5
SOFT	132 C++	5

REQUIRED COURSEWORK

		CREDITS
SOFT	142 Programming in JAVA II	5
SOFT	204 Open Source Programming	5
SOFT	207 Dynamic Web Pages	5
SOFT	208 Principles of Systems Analysis and Design	5
SOFT	209 Emerging Technologies	5
SOFT	210 Mobile Device Programming	5
WEB	101 Microsoft Office Applications	5
WEB	102 HTML, XHTML and CSS	5
SOFT	290 Capstone Project	5

Certificate of Competency: 60-65 Credits

BUSINESS APPLICATION DEVELOPMENTS		CREDITS
GENERAL EDUCATION REQUIREMENTS		
90+	Level Human Relations	5
90+	Level Communications	5
90+	Level Mathematics	5

REQUIRED COURSEWORK

CS&	141 Computer Science I JAVA	5
DATA	101 Data Modeling\Relational Database Design	5
DATA	102 SQL I	5
DATA	105 Principles of System Analysis and Design	5
SOFT	101 Computer Concepts and Technologies	5
SOFT	102 Programming Fundamentals	5
WEB	101 Microsoft Office Applications	5
SOFT	290 Capstone Project	5

PROGRAMMING LANGUAGE

STUDENTS MUST CHOOSE ONE OF THE FOLLOWING OPTIONS:

OPTION A		
SOFT	121 C-SHARP I	5
SOFT	122 C-SHARP II	5
OPTION B		
SOFT	132 C++	5
OPTION C		
SOFT	142 PROGRAMMING IN JAVA II	5

Web Development

www.bates.ctc.edu/WebDeveloper

Instruction in this program combines a unique blend of design and development technologies using a hands-on approach. Students learn to use industry software and development tools to create, implement and maintain static and dynamic web sites. A web developer is responsible for the site design and functionality that make surfing the Internet fun and easy. Employment opportunities include positions as web designers, specialists, technicians, and developers.

FACULTY

Ingrid Smith

Associate in Applied Science-Transfer: 120 Credits

GENERAL EDUCATION REQUIREMENTS	CREDITS
MATH&146 Introduction to Stats	5
MATH&141 Precalculus I	5
ENGL&101 College Composition	5
Social Sciences/Communications Studies:	5
SOC& 101 Introduction to Sociology, or	
CMST& 210 Interpersonal Communications, or	
PSYC& 100 General Psychology	
Humanities or Natural Science	5
ART& 100 Art Appreciation, or	
HIST 101 History of Science and Technology, or	
ASL& 101 American Sign Language I, or	
CHEM& 110 Chemical Concepts, or	
CHEM&121 Intro to Chemistry	

REQUIRED COURSEWORK

DATA 101 Data Modeling\Relational Database Design	5
DATA 102 SQL	5
DATA 103 Operating Systems	5
SOFT 101 Computer Concepts	5
SOFT 102 Programming Fundamentals	5
SOFT 142 Java II	5
WEB 101 Microsoft Office Applications	5
WEB 102 HTML, XHTML, and CSS	5
WEB 201 Internet Technologies	5
WEB 202 Web Authoring Editor	5
WEB 203 Photoshop for the Web	5
WEB 205 Web Site Design	5
WEB 206 Technology Topic	5
WEB 290 Capstone Project	5
CS& 141 Computer Science I-JAVA	5
SOFT 121 C-Sharp I	5
SOFT 122 C-Sharp II	5
SOFT 207 Dynamic Web Pages	5

ELECTIVE COURSEWORK (Select One)	5
SOFT 204 Open Source Programming	
WEB 204 Web Site Animation Using Flash	

Associate in Applied Science: 110 Credits

Human Relations:	5
SOC& 101 Introduction to Sociology, or	
CMST& 210 Interpersonal Communications, or	
PSYC& 100 General Psychology	
Communications	5
ENGL& 101 College Composition	
Computations	10
MATH&146 Introduction to Stats, and	
MATH&141 Precalculus I	

REQUIRED COURSEWORK	CREDITS
DATA 101 Data Modeling\Relational Database Design	5
DATA 102 SQL	5
DATA 103 Operating Systems	5
SOFT 101 Computer Concepts	5
SOFT 102 Programming Fundamentals	5
WEB 101 Microsoft Office Applications	5
WEB 102 HTML, XHTML, and CSS	5
WEB 201 Internet Technologies	5
WEB 202 Web Authoring Editor	5
WEB 203 Photoshop for the Web	5
WEB 205 Web Site Design	5
WEB 206 Technology Topic	5
WEB 290 Capstone Project	5
CS& 141 Computer Science I-JAVA	5
SOFT 121 C-Sharp I	5
SOFT 122 C-Sharp II	5
SOFT 207 Dynamic Web Pages	5
ELECTIVE COURSEWORK (Select One)	5
SOFT 204 Open Source Programming	
WEB 204 Web Site Animation Using Flash	

Certificate of Competency: 90 Credits

WEB TECHNICIAN	CREDITS
GENERAL EDUCATION REQUIREMENTS	
90+ Level Human Relations	5
90+ Level Communications	5
90+ Level Mathematics	5

REQUIRED COURSEWORK

DATA 101 Data Modeling\Relational Database Design	5
DATA 102 SQL	5
DATA 103 Operating Systems	5
SOFT 101 Computer Concepts	5
SOFT 102 Programming Fundamentals	5
WEB 101 Microsoft Office Applications	5
WEB 102 HTML, XHTML, and CSS	5
CS& 141 Computer Science I-JAVA	5
WEB 201 Internet Technologies	5
WEB 202 Web Authoring Editor	5
WEB 203 Photoshop for the Web	5
WEB 204 Web Site Animation Using Flash	5
WEB 205 Web Site Design	5
WEB 206 Technology Topic	5
WEB 290 Capstone Project	5

Welding

www.bates.ctc.edu/Welding

Students prepare for apprenticeship employment as welders, filling positions in industries including shipbuilding, industrial construction, energy fields, sheet metal, and auto body. Extensive practical training in all aspects of welding is included as students work in the shop on a variety of welding projects. Upon completion of the welding competencies, students are encouraged to take the certification tests for the American Welding Society and the Washington Association of Building Officials. This program also provides extended learning for persons previously or currently employed in these professions. Note: Through an Opportunity Grant, special tuition and book funding is available to assist low-income adult students entering this program.

FACULTY

Rick Huston, William Knox, Pat Normandeau, Linc Sprinkel

Associate in Applied Science: 120 Credits

GENERAL EDUCATION REQUIREMENTS	CREDITS
100+ Level Human Relations	5
100+ Level Communications	5
100+ Level Mathematics	5

REQUIRED COURSEWORK	CREDITS
WELD 101 Safety Principles	2
WELD 102 Fabrication Plans	4
WELD 103 Pre and Post-welding Activities	2
WELD 104 Oxyacetylene Cutting	3
WELD 105 Introduction to Shielded Metal Arc Welding	5
WELD 107 Brazing and Soldering	1
WELD 108 Full Penetration Welds – Flat/Horizontal	5
WELD 109 Full Penetration Welds – Vertical/Overhead	5
WELD 110 Full Penetration Welds – Open Root	5
WELD 111 Introduction to Gas Metal Arc Welding	3
WELD 112 Gas Metal Arc Welding – Full Penetration	4
WELD 113 Gas Metal Arc Welding – Aluminum	5
WELD 114 Introduction to Flux Core Arc Welding	4
WELD 115 Flux Core Arc Welding – Full Penetration	5
WELD 116 Carbon Arc Cutting	5
WELD 117 Welding Symbols	5
WELD 201 Introduction to Gas Tungsten Arc Welding	5
WELD 202 Gas Tungsten Arc Welding – Full Penetration	5
WELD 203 Gas Tungsten Arc Welding – Aluminum	5
WELD 204 Welding Certification Testing – SMAW	5
WELD 205 Advanced Welding Applications – Pipe/SMAW	5
WELD 206 Advanced Welding Applications – Pipe/GTAW	5
WELD 207 Welding Certification Testing – Flux Core	5
WELD 208 Non-Destructive Testing	1
WELD 209 Forklift Training	1
WELD 210 Advanced Welding Applications - Project	5

Certificate of Competency: 103 Credits

WELDER	CREDITS
GENERAL EDUCATION REQUIREMENTS	
90+ Level Human Relations	5
90+ Level Communications	5
90+ Level Mathematics	5

REQUIRED COURSEWORK	CREDITS
WELD 101 Safety Principles	2
WELD 102 Fabrication Plans	4
WELD 103 Pre and Post-welding Activities	2
WELD 104 Oxyacetylene Cutting	3
WELD 105 Introduction to Shielded Metal Arc Welding	5
WELD 107 Brazing and Soldering	1
WELD 108 Full Penetration Welds – Flat/Horizontal	5
WELD 109 Full Penetration Welds – Vertical/Overhead	5
WELD 110 Full Penetration Welds – Open Root	5
WELD 111 Introduction to Gas Metal Arc Welding	3
WELD 112 Gas Metal Arc Welding – Full Penetration	4
WELD 113 Gas Metal Arc Welding – Aluminum	5
WELD 114 Introduction to Flux Core Arc Welding	4
WELD 115 Flux Core Arc Welding – Full Penetration	5
WELD 116 Carbon Arc Cutting	5
WELD 117 Welding Symbols	5
WELD 201 Introduction to Gas Tungsten Arc Welding	5
WELD 202 Gas Tungsten Arc Welding – Full Penetration	5
WELD 203 Gas Tungsten Arc Welding – Aluminum	5
WELD 204 Welding Certification Testing – SMAW	5
WELD 205 Advanced Welding Applications – Pipe/SMAW	5

Courses may be substituted with a work-based learning component with instructor approval.

Certificate of Training: 32 Credits

WELDER-LEVEL I	CREDITS
REQUIRED COURSEWORK	
WELD 101 Safety Principles	2
WELD 102 Fabrication Plans	4
WELD 103 Pre and Post-welding Activities	2
WELD 104 Oxyacetylene Cutting	3
WELD 105 Introduction to Shielded Metal Arc Welding	5
WELD 107 Brazing and Soldering	1
WELD 108 Full Penetration Welds – Flat/Horizontal	5
WELD 109 Full Penetration Welds – Vertical/Overhead	5
WELD 117 Welding Symbols	5

Courses may be substituted with a work-based learning component with instructor approval.

Certificate of Training: 31 Credits

WELDER-LEVEL II	CREDITS
REQUIRED COURSEWORK	
WELD 110 Full Penetration Welds – Open Root	5
WELD 111 Introduction to Gas Metal Arc Welding	3
WELD 112 Gas Metal Arc Welding – Full Penetration	4
WELD 113 Gas Metal Arc Welding – Aluminum	5
WELD 114 Introduction to Flux Core Arc Welding	4
WELD 115 Flux Core Arc Welding – Full Penetration	5
WELD 116 Carbon Arc Cutting	5

Courses may be substituted with a work-based learning component with instructor approval.