

Degree and Certificate Information

Degrees and Certificates Awarded

Students attending SATC may earn a technical certificate and/or an Associate of Applied Science (AAS) Degree in the following programs:

Applied Electronic Technology
Auto Collision Repair
Automotive Technology
Business Administrative Technology
Commercial and Advertising Art
Computer Aided Drafting
Construction Technology
Dental Assistant
Diesel Technology
Electrical Technology – starting fall of 2010
Environmental Technology
Heating, Ventilation and Air Conditioning (HVAC)
Machine Tool Technology
Medical Assistant
Welding Technology

The Associate of Applied Science (AAS) degree requires a minimum of 60 credit hours to include at least 45 credits from technical courses and 15 credits of general education courses. The technical certificate transfers only to specific AAS degree programs at selected colleges or universities.

Students should seek degree program evaluation, analysis and advice from the institution to which they plan to enroll. Contact Student Services for more information. Articulation agreements which provide for seamless transitions are available with several other postsecondary institutions.

Courses and programs listed are subject to change pending KBOR state curriculum alignment approval.

Continuing Education

Continuing Education also offers a variety of certificates of completion in health sciences, manufacturing, construction, CAD, technical/maintenance, and other business and industry courses. Some certificates are credit based; others are non credit. Community members take these courses for employment, retraining, enrichment, or improvement of skills.

Continuing education also provides customized training for area businesses.

General Education

General education courses meeting the AAS degree requirements may also be transferred from an accredited college/university. Individual programs may have specific general education requirements. A grade of “C” or higher must be earned in general education courses.

General education courses will come from the following categories:

Communication	3 credit hours
Mathematics	3 credit hours

A minimum of 9 additional credit hours from the following areas:

- Social and Behavioral Science
- Applied and Natural Science
- Business
- Humanities
- Math
- Communications

General Education Assessment. By taking general education classes at SATC, students will develop competency in three lifelong learning areas: communication, critical thinking, and workplace skills.

Communication: students will demonstrate effective written and oral communication skills.

Critical Thinking: students will demonstrate the ability to solve problems involving several steps of analysis and judgment.

Workplace skills: students will develop “soft skills,” other than technical proficiency, which enhance employee and organization performance.

Applied Electronic Technology

Applied Electronic Technology Certificate

First Semester		Credits	Third Semester		Credits
EL 115 Digital Techniques I		3	EL 231 Robotics		3
EL 116 Digital Techniques II		3	ENG 100 Technical Communications		3
EL 105 AC/DC Circuits		6	EL 235 Wireless (RF) Communications		8
TOTAL CREDITS:		12	EL 210 Advanced Devices & Circuits		3
			TOTAL CREDITS:		17

Second Semester		Credits	Fourth Semester		Credits
MATH 150 College Algebra		3	EL 225 Industrial Motor Control		3
EL 120 Microprocessors & Applications		6	EL 230 Programmable Logic Control		3
EL 110 Devices and Circuits		6	EL 240 Video & Communications Systems		6
TOTAL CREDITS:		15	TOTAL CREDITS:		12
			TOTAL CERTIFICATE CREDITS:		56

Associate of Applied Science Degree: 65 Credits. To complete the Associate of Applied Science Degree, select 9 more credits from the General Education requirements found in the Degree and Certification Information section.

The Applied Electronic Technology program provides training in complex electronic equipment. These complex pieces of electronic equipment are installed, maintained, and repaired by electrical and electronics installers and repairers.

Salina Tech's 18-month program can prepare you for career opportunities in: Aircraft Industry, Computer Industry, Medical Electronics, Automated Manufacturing, Cross-Functional Technician, Military Bio-Medical Technician, Industrial Automation, Mobile Communications, Broadcast Engineer, Industrial Electronics, Oil and Gas Industry, Business Machine Servicing, Industrial Equipment Servicing, Telephone Industry, Communications Technician, Instrumentation/Process Controls, Water/Wastewater Treatment Technician.

Applied Electronic Technology Course Descriptions

First Year/First Semester

EL115 Digital Techniques I, 3 credits.

During this course students are familiarized with a wide range of integrated devices, their characteristics and the circuits in which they are used. Students receive practical experience on integrated device characteristics, how they are used in the design of circuits and troubleshooting problems.

EL116 Digital Techniques II, 3 credits.

This is a continuation of EL 115 Digital Techniques I. Students will learn concepts, terminology, components, and circuits that are used to form the basic digital system.

EL105 AC/DC Circuits, 6 credits.

This course is an introduction to electronic components, symbols, soldering techniques, and the global language used in electronics. Students receive computer-based, modular training simultaneously with practical experience reading schematic diagrams, constructing circuits, and test procedures of basic electronic operating characteristics used in AC and DC electronics and electricity. Students measure frequency and voltages with meters and oscilloscopes and learn about frequency reactive devices.

First Year/Second Semester

MATH 150 College Algebra, 3 credits.

Students will learn how to interpret mathematical symbols and notations, simplify expressions, factor polynomials, solve equations (including absolute value, quadratic and systems of linear equations), perform operations on radical expressions, write equations, and evaluate functions.

EL120 Microprocessors & Applications, 6 credits.

This course introduces concepts of microprocessor programming (including Assembly Language) and lays a foundation in microprocessor applications. This phase presents a working knowledge of microprocessor programming and interfacing and digital-to-analog conversion, analog-to-digital conversion, analog signal conditioning, sensors, transducers, and many other facets.

EL110 Devices and Circuits, 6 credits.

Students will begin with the most common semiconductor devices and their theory of operation. Students will learn a variety of circuit configurations and their characteristics. A working knowledge of power supplies, operational amplifiers, opto-electronics, transducers, solid-state switches, and amplifiers will be learned. Circuits will be experimentally analyzed.

Second Year/First Semester

EL231 Robotics, 3 credits.

This course gives students an introduction to basic robotic concepts. Students gain a working knowledge of safety and terminology related to the use of robots. Alternate methods of

movement and motion control techniques are also included. With knowledge from a PLC and Robotic background, one can expand into many different fields of electronics and automation.

ENG 100 Technical Communications, 3 credits.

This course provides an introduction to professional and technical writing appropriate to students' field of study and future professional lives. It emphasizes thorough practice in the organization and writing of technical documents, locating and using appropriate information, communicating with others, and career seeking skills.

EL235 Wireless (RF) Communications, 8 credits.

The communication spectrum has been greatly expanded by the use of "wireless" communication. This phase is designed to teach the fundamentals and intermediate techniques of Radio Frequency (RF) communications. This course introduces the student to methods of generating and receiving AM (amplitude modulated) and FM (frequency modulated) signals, antennas, transition lines, and satellite communications.

EL210 Advanced Devices & Circuits, 3 credits.

Students build on the foundation of EL 110. After completing this course, students will be familiar with a variety of circuit configurations and their characteristics. Students gain a working knowledge of RLC circuit characteristics including resonance, regulated power supplies, SCR and Triac Power control circuits, and oscillators. Each are experimentally analyzed.

Second Year/Second Semester

EL225 Industrial Motor Control, 3 credits.

This course is designed to give the student a valuable background in plant power distribution, various types of pilot control devices, AC and DC motors, electrical and motor control circuits including wiring methods, Variable Frequency Drives (VFDs), and troubleshooting these devices and controls. A control background can expand into related fields of industrial controls, manufacturing automation, security systems, and water/waste treatment technologies.

EL230 Programmable Logic Controllers, 3 credits.

This course gives students a background in programmable logic controller theory, implementation, and troubleshooting. Advanced control techniques are necessary for students to succeed in our age of increased automation in manufacturing and process controls.

EL240 Video & Communication Systems, 6 credits.

This course is designed with an emphasis on video systems and communication principles. Those relatively complex functions involving numerous components and circuits have been reduced to integrated circuits. The focus in this course is on circuit functions rather than on the circuit elements themselves. The student is expected to have a background in electronic circuits, especially those pertaining to Wireless (RF) Communications. The second half of this course will focus on electronic communication circuits and systems regarding interfacing practices involving commercial broadcast stations, and amateur stations plus security and surveillance activities.

Auto Collision Repair

Auto Collision Repair Certificate

First Semester	Credits	Second Semester	Credits
CR 100 Orientation	1	CR 122 Non-Structural II	4
CR 120 Non-Structural Repair I	4	CR 142 Structural Repair II	4
CR 140 Structural Repair I	4	CR 145 ASE Preparation	6
CR 150 Plastics & Adhesives	6	CR 162 Refinishing II	4
CR 160 Refinishing I	4	CR 290 Estimating/Damage/Analysis	3
CR 190 Estimating/Damage/Analysis I	2	TOTAL CREDITS:	21
TOTAL CREDITS:	21	TOTAL CERTIFICATE CREDITS:	42

Associate of Applied Science Degree: 60 Credits. To complete the Associate of Applied Science Degree, select 15 credits from the General Education requirements found in the Degree and Certification Information section plus 3 technical electives from the following: AUT 102, BUS 192, AUT 314 or AUT 222.

Automotive body technicians straighten bent frames, remove dents, replace parts, and repaint areas that cannot be fixed. You will learn to repair all types of vehicles and make insurance estimations. Body technicians also repair or replace the plastic body parts, replace broken, cracked, or pitted window glass, and finally re-paint the damaged areas. Salina Tech delivers the skills you need to be successful in collision repair and painting in just nine months. Students can go on to specialize in specific areas such as just windshield replacement, insurance estimation, fiberglass repair, or custom painting. Painters may also work in manufacturing settings painting machine or product parts. Excellent job opportunities are projected because of the large number of older technicians who are expected to retire in the next 10 to 15 years.

Career Opportunities: Automotive Body and Paint Shops, Automotive Dealers, Paint and Supply Stores, Metal Shops, Paint Shops, Manufacturing Companies.

Auto Collision Repair Course Descriptions

First Semester

CR 100 Orientation, 1 credit.

This course covers the introduction to the collision repair occupation. Personal safety is emphasized by the student learning OSHA laws including the "Right to Know." Proper handling and disposal of wastes including those classified as hazardous are discussed. Tool identification and safety along with basic out construction are also introduced.

CR 120 Non-Structural Repair I, 4 credits.

Upon the completion of this course students are able to use basic metal working skills to repair damaged panels back to their original shape. Body filler repair procedures along with the replacement and adjustment of moveable glass are also learned. The removal, replacement and adjustment of interior and exterior panels and basic welding are areas the student should master.

CR 140 Structural Repair I, 4 credits.

In this course the student will be able to identify structural panels of the vehicle and learn special procedures for their replacement or repair including restoring corrosion protection. The replacement of stationary glass and applied welding is included in the course.

CR 150 Plastics and Adhesives, 6 credits.

Damage analysis and repair decisions on plastic interior and exterior components including repair techniques using adhesives and welding procedures are taught in this class.

CR 160 Refinishing I, 4 credits.

This course gives the student basic knowledge and skill in automotive refinishing. Basic procedures, safety, and product knowledge are emphasized. Proper surface preparation along with introduction to refinishing equipment is included. Paint code interpretation, tracking material cost and waste, and application procedures are also part of this course.

CR 190 Estimating/Damage/Analysis I, 2 credits.

This course emphasizes the importance of writing accurate estimates and analyzing collision damage in the collision industry. Estimates are generated by hand and/or computer. Hand written estimates use crash estimating guides while computer estimates use the appropriate software. Writing and reading repair orders is also included in this course.

Second Semester

CR 122 Non-Structural Repair II, 4 credits.

CR 120 is a prerequisite for this course. This is an advanced course that takes the skills learned in CR 120 to the next level which is applying those skills in a non-mockup delivery. The student is exposed to limited customer work.

CR 142 Structural Repair II, 4 credits.

The prerequisite for this course is CR 140 Structural Repair. This course is an advanced course exposing the student to the next level which is the introduction to non-mockup vehicle repair.

CR 145 ASE Preparation, 6 credits.

This course will prepare students with the necessary information to begin and maintain a career in the collision industry. It will also introduce the student to certifications available in the collision repair industry such as ASE and I-CAR. Students will learn the trade associations and continuing learning opportunities in collision repair.

CR 162 Refinishing II, 4 credits.

The prerequisite to this course is CR160. This course is an advanced course introducing the students to refinishing using customer's work. Projects of live work expose the student to spot repairs and overall refinishing. Topcoat problems and defects are corrected which aids in student's problem solving ability. Color matching skills are developed by introducing color theory and tinting skills for solid and metallic color matching.

CR 290 Estimating/Damage/Analysis II, 2 credits.

This course helps the student to thoroughly analyze collision damage by the use of electronic and mechanical measuring equipment. Practice estimates are written on various shop projects. Live work is emphasized.

Automotive Technology

Automotive Technology AAS Degree

First Semester		Third Semester	
	Credits		Credits
AT 100 Shop Safety/Management	1	AT 210 Automotive HVAC	4
AT 105 Steering and Suspension 1	2	AT 220 Manual Drive Trains	4
AT 110 Steering and Suspension 2	2	AT 240 Automatic Transmissions and Transaxles	6
AT 115 Engine Repair 1	2		
AT 135 Electrical 1	3	General Education	3
AT 140 Electrical 2	2		
General Education	3		
		TOTAL CREDITS:	17
TOTAL CREDITS:	15		
Second Semester		Fourth Semester	
	Credits		Credits
AT 120 Engine Repair 2	3	AT 230 Advanced Engine Performance	7
AT 130 Engine Performance 1	3	AT 250 Advanced Electrical	5
AT 145 Brakes 1	3	AT 260 ASE Preparation	1
AT 150 Brakes 2	2	General Education	6
AT 155 Automotive Diesel Technologies	1		
AT 160 Hybrid/Electric Vehicles	1		
General Education	3	TOTAL CREDITS:	19
TOTAL CREDITS:	16	TOTAL AAS CREDITS:	67

At Salina Tech, ASE certified master technicians with over 30 combined years in the industry provide training and mentor students. The major areas of car repair are taught: Engine Fundamentals, Repair and Performance, Automatic and Manual Transmission and Transaxle, Automotive Heating and Air Conditioning, Brakes, Transfer Case and Driveline, Basic and Advanced Electricity and Electronic Systems, Steering and Suspension, Alignment Technology, and Automotive Body Electronics as well as preparation for ASE certification and employment skills. Our shop facilities are top notch and equipped with the latest tools and equipment. Students work on customer's cars with real problems providing instructor-supervised service throughout the eighteen months of the program.

High school students must start the Automotive Technology program as juniors.

CAREER OPPORTUNITIES: General Mechanic, Front End Specialist, Transmission Specialist, Parts Person, Brake Specialist, Tune Up Specialist, Service Writer, Factory Representative

Automotive Technology Course Descriptions

First Year/First Semester

AT 100 Shop Safety/Management, 1 credits.

This course provides students with an understanding of current safety regulations, established safety practices, hazard recognition, and the impact of behavior and environment on injury prevention. Students will also learn to complete repair Orders, order parts, do vehicle inspections and manage a tool room.

AT 105 Steering and Suspension 1, 2 credits.

In this course students will: document fundamental suspension system concerns; perform fundamental diagnostics of steering systems; perform fundamental repairs of steering systems; perform fundamental diagnostics of suspension systems; perform fundamental repairs of suspension systems; determine the need for wheel alignment and adjustment; perform fundamental diagnostics of wheel and tire systems; perform fundamental repairs of wheel and tire systems through a variety of learning and assessment activities.

AT 110 Steering and Suspension 2, 2 credits.

In this course students will perform complex diagnostics and repair on steering and suspension systems. Additionally, students will perform pre-alignment inspection and complex repairs of wheel and tire systems.

AT 115 Engine Repair 1, 2 credits.

Through a variety of learning and assessment activities students can: explore the theory and operation of internal combustion engine; demonstrate the basic ability to inspect and repair engine lubrication; and demonstrate the basic ability to inspect and repair engine cooling systems.

AT 135 Electrical 1, 3 credits.

In this course students will: Complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning and assessment activities.

AT 140 Electrical 2, 2 credits.

In this course students will: Perform battery diagnosis; perform battery service; perform starting system diagnosis; perform starting system repair; perform charging system diagnosis; perform charging system repair; identify current flow on starting and charging system diagrams through a variety of learning and assessment activities.

First Year/Second Semester

AT 120 Engine Repair 2, 3 credits.

Through a variety of learning and assessment activities students can: demonstrate the ability to remove an automotive engine; demonstrate the ability to install an automotive engine; demonstrate the basic ability to inspect and repair cylinder head, valve trains and timing defects; demonstrate the ability to disassemble short block; demonstrate the ability to inspect short block; inspect a cylinder head and valve train; repair a cylinder head and valve train; perform advanced level engine diagnosis.

AT 130 Engine Performance 1, 3 credits.

In this course students will: complete work order and check history; identify engine mechanical integrity; explore the fundamentals of fuel system theory; identify fuel system concerns; explore the fundamentals of ignition theory; identify ignition system concerns; identify induction system concerns; identify exhaust system concerns; identify engine mechanical integrity through a variety of learning and assessment activities.

AT 145 Brakes 1, 3 credits.

In this course students will examine the components of the drum and disc braking systems. Through classroom and shop learning experiences, students will diagnose, inspect and repair brakes, bearings and hub assemblies.

AT 150 Brakes 2, 2 credits.

In this course students will: determine necessary brake system correction; conduct system pressure tests utilizing service specifications; perform diagnosis and correction for poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system; conduct inspection, fabrication and/or replacement of brake lines and hoses; diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns; perform service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums; perform drum brake repair and replacement procedures; diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns; perform disc brake repair and replacement procedures; machine rotor according to service specifications; perform caliper piston retraction where applicable; Inspect and test power assist systems; determine necessary action on wheel bearing noise, wheel shimmy and vibration concern diagnoses; perform the removal, inspection and replacement of bearing and hub assemblies through a variety of classroom and lab/shop learning and assessment activities.

AT 155 Automotive Diesel Technologies, 1 credit.

In this course students will develop a basic understanding of diesel engine operation and be able to do basic repairs to automotive diesel engines.

AT 160 Hybrid/Electric Vehicles, 1 credit.

As the price for fossil fuel rises many vehicle manufacturers have advanced the use of hybrid/electric technology in their car & truck lines. This course covers the different types of systems used in today's hybrid/electric vehicles along with the safety precautions that are a must when servicing these vehicles. Honda, Toyota, Ford, GM, Chrysler, BMW, & Zenn vehicles will be covered in this course.

Second Year/First Semester

AT 210 Automotive HVAC, 4 credits.

Through a variety of learning and assessment activities students can: explore the fundamentals of automotive HVAC operations and environmental concerns, identify the appropriate refrigerant recovery and recycling guidelines; service refrigerant, recycling and handling systems; document fundamental heating and air conditioning system concerns; perform fundamental diagnostics of A/C systems; perform fundamental diagnostics of refrigeration systems components; perform fundamental repairs of refrigeration systems components; perform fundamental diagnostics of heating, ventilation, and engine cooling systems; perform fundamental repairs of heating, ventilation, and engine cooling systems; perform fundamental diagnostics of operating systems and related controls; perform fundamental repairs of operating systems and related controls; perform complex diagnostics of A/C Systems; document complex heating and air conditioning system concerns; perform complex diagnostics of refrigeration system components; perform complex repairs of refrigeration system components; perform complex diagnostics of heating, ventilation, and engine cooling systems.

AT 220 Manual Drive Trains, 4 credits.

Through a variety of learning and assessment activities students can: determine the general drive train diagnosis procedures; explore the fundamentals of clutch operation; explore the fundamentals of clutch removal, inspection and repair; determine the powerflow of the manual transmission and transaxle; perform fundamental manual transmission and transaxle inspection and repair according to service specifications; perform fundamental differential inspection and repair according to service specifications; perform fundamental diagnosis, inspection and replacement of drive axle shafts and supporting components; perform fundamental diagnosis, inspection, adjustment and repair of four- and all-wheel drive components; diagnose drive train issues; diagnose clutch concerns; perform the removal, inspection and/or repair of the clutch and its components; conduct a transmission and transaxle inspection and repair according to service specifications; conduct a differential inspection and repair according to service specifications; conduct the diagnosis, inspection and replacement of drive axle shafts and supporting components; conduct the diagnosis, inspection, adjustment and repair of four- and all-wheel drive components.

AT 240 Automatic Transmissions and Transaxles, 6 credits.

Through a variety of learning and assessment activities students can: explore the concept of theory and operation of automatic transmissions/transaxles; perform maintenance on an automatic transmission/transaxle; perform service on an automatic transmission/transaxle; diagnose automatic transmission/transaxles; inspect automatic transmission/transaxles; remove and reinstall automatic transmission; remove and reinstall automatic transaxles; disassemble automatic transmission and components; disassemble automatic transaxles and components; inspect automatic transmission components; inspect automatic transaxles and components; repair automatic transmission and components; repair automatic transaxles and components; reassemble automatic transmission and components; reassemble automatic transaxles and components.

Second Year/Second Semester

AT 230 Advanced Engine Performance, 7 credits.

In this course students will: Perform battery diagnosis; perform battery service; perform starting system diagnosis; perform starting system repair; perform charging system diagnosis; perform charging system repair; identify current flow on starting and charging system diagrams through a variety of learning and assessment activities.

AT 250 Advanced Electrical, 5 credits.

Through a variety of learning and assessment activities students can: diagnose open circuit problems; diagnose short circuit problems; diagnose grounded circuit problems; diagnose high resistance problems; identify computer circuit problems using various test equipment; identify current flow on lighting, gauges, warning devices, driver information systems, horns, wiper/washer and accessory circuits on wiring diagrams; diagnose computer circuit problems using test equipment; repair computer circuit problems using test equipment; diagnose CAN/BUS systems; repair CAN/BUS systems; identify low/high voltage circuits and disconnects on hybrid vehicles.

AT 260 ASE Preparation, 1 credit.

In this course the expectations an employer would require of a good employee will be covered—time management, productivity, attendance, etc. The ASE certification process will be discussed and students will do practice tests for the ASE exam.

Business Administrative Technology

Business Administrative Technology Certificate

First Semester	Credits	Second Semester	Credits
BC 105 Keyboarding	2	BC 122 Desktop Publishing	3
BC 112 Word Processing	3	BC 153 Spreadsheet Management	3
BC 118 Word Processing II	2	BC 173 Database Management	3
BC 131 Records Management	1	BC 175 Job Preparation	4
BC 149 Introduction to Computers	2	BC 186 Business Law/Ethics	2
BC 182 Office Machines	2	BC 193 Accounting II	4
BC 191 Human Relations	3	BC 195 In-House Training/ On-The-Job Training	3
BC 192 Business Accounting	3	TOTAL CREDITS:	22
BC 194 In-House Training	1	TOTAL CERTIFICATE CREDITS:	46
BC 160 Business Communications	3		
BC 135 Business Math	2		
TOTAL CREDITS:	24		

Associate of Applied Science Degree: 61 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section.

Prepare to become a successful administrative professional at Salina Tech. Use a variety of office equipment, such as fax machines, photocopiers, scanners, PDAs, audio-visual equipment and videoconferencing and telephone systems. The program includes instruction in creating spreadsheets; composing correspondence; managing databases; and producing and editing presentations, reports, and documents using desktop publishing software and digital graphics. Some administrative professionals perform highly specialized work requiring knowledge of technical terminology and procedures. Many Business Administrative Technology students develop the skills they need to become entrepreneurs, department supervisors and office managers. Enroll in our nine-month program and train to be a polished professional in the office setting you choose.

Career Opportunities: Legal, Computer Support, Banking, Medical Insurance, Hotel/Restaurant Management, Accounting Firms, Industrial Firms, Schools and Colleges

Business Administrative Technology Course Descriptions

First Semester

BC 105 Keyboarding, 2 credits.

Students learn proper keyboarding procedures and techniques at a rate of at least 70 words-per-minute. This course enhances their skills in proofreading, speed and accuracy. Practice exercises in using correct letter, memo, and report formats are used. Students also learn how to use PowerPoint to create multimedia presentations. Students learn how to design, edit, and customize a presentation. They also learn the advanced features of adding animation and sound effects to their presentations.

BC 112 Word Processing, 3 credits.

This course provides students with an understanding and use of word processing in a realistic business environment. Topics include: preparation of newsletters, letters, mailing labels, creation of outlines, tables, forms; and integration of word processing software with other software programs. This course may be used to prepare for a MOS Word exam.

BC 118 Word Processing II, 2 credits.

Word Processing II allows students to gain experience and knowledge of the more advanced features of word processing software packages. Students create brochures and newsletters with styles, graphics, and desktop publishing skills. Students also complete mail merges, electronic forms, macros, and integration of word processing software with other software programs. Students have an opportunity to complete a final project combining their skills from Word Processing I and II. This course may be used for the preparation of a MOS Word exam.

BC 131 Records Management, 1 credit.

Students learn the creation, maintenance, protection, and disposition of records stored in a variety of media forms. Instruction includes the Association for Records Managers and Administrators, Inc. (ARMA) rules for filing, retrieving documents, and specialized functions such as electronic technology. Students develop a filing system and purchase filing equipment and supplies in a realistic business setting.

BC 135 Business Math, 2 credits.

This course offers a realistic experience with business applications typically performed on electronic calculators or other 10-key office machine keypads. Students learn to manage their time, become familiar with business forms, develop accuracy in machine operation, and expand and refine math skills.

BC 149 Introduction to Computers, 2 credits.

This course is designed to acquaint students with both the hardware and software that make up a computer system. Exercises include formatting data disks, saving and deleting files, creating and deleting folders and subfolders, introduction of the types of software used in business today, use of Windows Explorer, My Computer, and Control Panel to adjust computer settings. Windows XP is covered.

BC 160 Business Communications, 3 credits.

Business Communications is designed to cover the communication skills that are necessary in a high technology global business environment. These skills include competencies in oral and written communication; an awareness of international, legal, and ethical issues; and the ability to work collaboratively on group projects.

BC 182 Office Machines, 2 credits.

Today's workplace promises to change at a rapid pace due to major technological advances and increasing globalization. To keep up with technology, employees have become "lifelong learners." Students learn how to use everyday office machines such as the facsimile machine, multi-line phone system, copier, scanner, personal data assistant (PDA), and digital camcorder. Students are taught to read and understand owner's manuals and to teach themselves how to use new office equipment independently. Web page design is also included in this course.

BC 191 Human Relations, 3 credits.

This discussion course is a study of professional workplace behavior emphasizing the leadership function of management. Students gain insight and information to enhance their own self-management skills and leadership skills and style through reading, information sharing and growth activities.

BC 192 Business Accounting, 3 credits.

Business Accounting includes the theory and practice associated with double-entry accounting. Special emphasis is placed on the preparation of the documents necessary to complete the accounting cycle. Topics include: transactions, journals, financial statements, schedules, adjustments/closing entries, accounting cycle, cash control, bank reconciliation, and payroll. Computerized accounting software is used.

BC 194 In-House Training, 1 credit.

The In-House Training (INT) course is on-campus, student-assigned work with the purpose of providing practical work experience, which allows the instructor to assess student ability to transfer skills to real world applications and uses. The instructor assigns work to students (which is completed in the department) and evaluates performance. Additional forms to be completed may include time charts, type of work forms, etc.

Second Semester

BC 122 Desktop Publishing, 3 credits.

This course teaches design and fosters creativity while learning techniques and features of Microsoft Publisher. Students learn through lecture, discussion and hands-on practice principles of layout and design as well as integrated software packages, specifically Microsoft Office. Students develop original projects for this course.

BC 153 Spreadsheet Management, 3 credits.

Students become productive Excel users through lecture, discussion and hands-on practice – learning to create professional reports that perform business or personal calculations; display

financial or scientific calculations; complete list management tasks, financial forecasts and scenarios; and chart design and editing. Students complete three original projects for this course. This course may be used for the preparation of a MOS Excel exam.

BC 173 Database Management, 3 credits.

This course provides students with an understanding and use of relational database software in a realistic business environment. Topics include: relational database objects, enhancements of forms and reports, analysis and manipulations of data, and integration of database software with other software programs. This course may be used to prepare for MOS Access Certification.

BC 175 Job Preparation, 4 credits.

Students develop sound job search and career management skills to gain a competitive advantage. Discussion and activities include thorough, practical career management advice; job search guidelines; development of job search documents; employment law; actual job searches; etc.

BC 186 Business Law/Ethics, 2 credits.

Understanding law is an important part of keeping a business running, from making decisions about organizational structure to making contracts and managing potential liabilities. This class explores basic legal structures and explains the legal reasons for many common business practices. Students are encouraged to use legal reasoning and common sense in resolving issues.

BC 193 Accounting II, 4 credits.

In this second semester course, accounting fundamentals learned in Accounting I are reinforced and enhanced by using five practice sets that require analyzing information; creating transactions; verifying accuracy; making corrections as necessary; preparing a variety of reports; and completing an audit test with the focus on attention to detail; analysis; research; critical thinking and problem solving skills.

BC 195 In-House Training/On-The-Job Training, 3 credits.

The In-House Training (INT) / On the Job Training (OJT) course is a combination of on-campus student-assigned work and off-campus work with the purpose of providing practical work experience which allows instructors to assess student ability to transfer skills to real world applications and uses. Instructors will assign work to students (which may be completed in the department or on site) and evaluate performance along with the training sponsor (person for whom the work is being done). A formal training plan and application will be completed for each student going off site. Training sponsor evaluations will be completed for each training station by sponsor for each off-site location, and instructors will conduct site visits for each off-site location regularly. Additional forms to be completed may include time charts, type of work forms, etc.

Commercial and Advertising Art

Commercial and Advertising Art Certificate

First Semester	Credits	Third Semester	Credits
CA 101 Communication Media	4	CA 200 Color Design and Color Theory	4
CA 102 Design and Color	4	CA 202 Printing and Reproduction	4
CA 110 Computer Drawing Techniques	4	CA 215 Advanced Design	3
CA 111 Computer Illustration II	4	CA 218 Advertising Design	3
TOTAL CREDITS:	16	TOTAL CREDITS:	14
Second Semester	Credits	Fourth Semester	Credits
CA 131 Computer Illustration	3	CA 220 Web Design I	4
CA 140 Typography	4	CA 221 Web Design II	3
CA 150 Graphic Design I	4	CA 230 Multimedia I	4
CA 151 Graphic Design II	4	CA 231 Multimedia II	3
TOTAL CREDITS:	15	TOTAL CREDITS:	14
		TOTAL CERTIFICATE CREDITS:	59

Associate of Applied Science Degree: 74 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section.

Commercial Advertising Artists—or graphic artists—plan, analyze, and create visual and multimedia solutions to advertising problems. Using print, electronic, and film media in a variety of methods such as color, type, illustration, photography, animation, and various print and layout techniques, they develop the overall layout and production design of magazines, newspapers, and other publications using state of the art software programs and technology. They also produce promotional displays, packaging, and marketing brochures for products and services, design distinctive logos for products and businesses, and develop signs and signage systems for business, organizations, or individuals. They may also develop material for Internet Web pages, interactive media, and multimedia projects. In our affordable, 18-month program, Salina Tech students gain the skills to utilize specialized computer software, multimedia tools, and advertising design theory they need for a career in the nation’s second largest industry—Commercial Advertising Art.

Creative career options include: Advertising Agencies, In-House Marketing Departments, Package Design, Multimedia and Web Design, Retail Identity, Publishing Companies, Service Bureaus, Catalogs and Magazines, Screen Printing, Vinyl Graphics Production, Production Houses/Printing Industry, Document support departments for industries such as: Newspapers, Magazine, Financial, Fashion, Health Care, Manufacturing, Television.

Commercial and Advertising Art Course Descriptions

First Year/ First Semester

CA 101 Communication Media, 4 credits.

This course presents communication theory based on the printed word. The course covers page layout and image editing software packages and works to insure that students have a solid working knowledge and concept of basic layout techniques and image editing that conveys a visual message to the target audience. Students examine the processes involved in coordinating art and typography with verbal and visual content. Brochures, newsletters, catalogs, and magazine pages are just a few of the topics that will be covered.

CA 102 Design and Color I, 4 credits.

The 'color de jour' is the theme of this course. Color impact and usage are vital components of graphic design and this is the beginning of continual emphasis on appropriate usage of color in everyday design. Also in this course students will be expected to master certain image editing processes as they pertain to the use of color in the graphic arts. Some of the lessons include: logo illustration, colorizing, and creating special effects on photos and ad slicks.

CA 110 Computer Drawing Techniques, 4 credits.

This course introduces the computer as a medium to create two dimensional images and illustrations through the use of the top software packages in the industry. Students will be introduced to production and fine art concepts of illustrating to create identity concepts. Personal approach, style, and consistency are stressed in problem solving as students learn to use the software packages for their illustration assignments.

CA 111 Computer Illustration I, 4 credits.

The course expands on the course work of CA 110. It is designed to strengthen audience through illustrations. Students will further expand their working knowledge of preproduction practices for graphic illustrations. Tricks from the industry to develop speed and consistency of work will also be presented. Furniture, apparel, canned/sacked goods, and animals will be part of the required list of illustrations in this course.

First Year/Second Semester

CA 131 Computer Illustration II, 3 credits.

Composition and eye flow will be studied as it relates to fine art illustration and graphic advertisement illustrations. Aspects of developing visual significance, from formulating the idea to utilizing innovative printing techniques are reviewed. Form and design are revealed through a number of projects. Computer generated washes, gels, overlays, and lighting will be used to enhance and round out the students' images. Formulas for lighting and softening edges and achieving artistic and 3-D effects will also be utilized.

CA 140 Typography, 4 credits.

This course involves the use of typography as design, moving beyond type, as a work delivery form. Students will work with designing and redesigning type forms to create design that functions as the visual focal point of advertising. Students become more aware of the role of typography in various print communication contexts.

CA 150 Graphic Design I, 4 credits.

This comprehensive course covers all aspects of advertising design in a real time, realistic work setting atmosphere. The students will create advertising strategies, concepts, designs, and pre-press solutions with deadlines required. From logos to book covers and visual identity and branding, the students explore the 2D realm of advertising design with critiques by the instructor acting as art director. Projects from this course should be of portfolio quality.

CA 151 Graphic Design II, 4 credits.

This course introduces students to all aspects of graphics as applied to or found in 3-D environments. Students analyze, design and produce mock-up and scale models of packaging, point-of-purchase merchandising units, and signage. Students also explore materials and manufacturing processes to discover their creative possibilities.

Second Year/First Semester

CA 200 Color Design and Color Theory, 4 credits.

This course applies the study of color, color application, and composition for the creation of graphic illustrations, logo development, and market identity. Students are expected to learn how to emphasize color as a language in their graphics and design work through analysis of existing campaigns that employ color as a primary agent.

CA 202 Printing and Reproduction, 4 credits.

This course provides a thorough background for obtaining quality graphic reproduction. Printing processes from four color process to screen printing and flexography will be covered with special emphasis on prepress procedures and prepress design concepts. Students will prepare projects that emphasize good design solutions for a variety of printing processes. Each project will require all prepress procedures to be utilized and deadlines will be required. All work will be critiqued by the instructor. Projects produced are expected to be portfolio quality.

CA 215 Advanced Design, 3 credits.

Students learn the mechanisms necessary to develop and maintain a viable corporate image through trend analysis with an agency style mind set. This course focuses on technical and material requirements, enabling students to problem solve and address production issues specific to logo development, ads, direct mail, magazine advertisement campaigns, and on-line marketing identification.

CA 218 Advertising Design, 3 credits.

In this advertising design course students explore advertising, marketing, and product branding. This course also presents the diverse environments and working methods of advertising design practitioners. Advertising Design addresses practical methods such as research, brainstorming,

and graphic visualization techniques. Students demonstrate an awareness of advertising design practice and procedures. Multiple types of advertising strategies and concepts are covered and advertising psychology and targeting market audiences and designing to those needs are fully explored.

Second Year/Second Semester

CA 220 Web Design I, 4 credits.

This course introduces students to the Internet as a design vehicle for publishing and advertising. Primary focus is on how the internet is set up, browser and platform considerations. Visual design as well as navigational design for the internet and file preparations for web pages will be explored. Programs for web animation and design and web graphic optimization such as Fireworks and Dreamweaver will also be covered.

CA 221 Web Design II, 3 credits.

This course is an in-depth web design course that focuses on the creation of complete web sites. Students will develop their own web sites. Sites will include interactive communications animations and advanced rollovers and scripts. Programs such as Fireworks and Dreamweaver along with Flash will be used. The purpose of this course is to unify design and interactivity for communications.

CA 230 Multimedia I, 4 credits.

This course covers concepts of animation, multimedia, and interactivity. Students develop editing solutions as they learn and practice adding, editing, and compressing audio for use in multimedia presentations. The class will also explore interactive media and time-based media for developing interactive audio visual experiences for web or CDs. Software used will primarily be Flash, and students will do some product photography.

CA 231 Multimedia II, 3 credits.

The emphasis of this course is on video and sound production for multimedia and DV movies. Production issues that will be explored are communication in film, technical aspects in shooting video that pertain to proper editing techniques and the use of special effects. Software used in this course are Final Cut Pro, Soundtrack, and DVD Pro.

Computer Aided Drafting

Computer Aided Drafting Certificate

First Semester	Credits	Second Semester	Credits
CDDT 125 Drafting Technology	4	CDDT 130 Architectural Drafting I	7
CDDT 170 Computer Aided Drafting I	3	CDDT 140 Structural Steel Detailing	3
CDDT 171 Computer Aided Drafting II	3	CDDT 120 Descriptive Geometry	3
CDDT 123 Parametric Modeling	3	CDDT 131 Architectural Drafting II	7
MATH 150 College Algebra	3	CDDT 145 Civil Drafting	7
ENG 100 Technical Communications	3	TOTAL CREDITS:	27
TOTAL CREDITS:	19	TOTAL CERTIFICATE CREDITS:	46

Associate of Applied Science Degree: 61 Credits. To complete the Associate of Applied Science Degree, select 9 more credits from the General Education requirements found in the Degree and Certification Information section plus 6 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

Drafters design products like computer parts, hand tools, toys, cars, and airplanes as well as structures such as houses, hospitals, stadiums, or schools. If it must be manufactured, built, or handcrafted, a blueprint or technical drawing must be generated before any construction or manufacturing can begin. Some drafters work with civil engineers to survey a landscape and create infrastructure such as bridges, highways, dams, airports, or railways. People provide ideas or specific plans for a product or structure and CAD technicians create the blueprint. Sometimes drafters will be involved in the surveying, measuring, or data collection about a product or structure before the plan is designed. With CAD systems, drafters store drawings electronically so that they can be viewed, printed, or programmed directly into automated manufacturing systems. At Salina Tech you can gain the skills needed to become a successful drafter in just nine months! Come in today to check out our new plotter that makes 3-D models.

CAREER opportunities: Ag-Related Industries (Manufacturing, Designers), Construction Companies, Civil Engineering Firms, City, County and State Engineering Offices, Labs or Fields, Electrical Specialist Engineering, Recreational Industries, Mechanical Engineering Firms, Architectural Engineering Firms,

Computer Aided Drafting Course Descriptions

First Semester

CDDT 125 Drafting Technology, 4 credits.

Basic concepts and skills of mechanical drawing, use and knowledge of drafting tools, supplies, and equipment are covered. Mechanical drafting fundamentals will be presented, along with an explanation of standard drafting practices are taught. Topics covered will include drafting equipment, media, sketching, lettering and lines, geometric construction, multi-views, auxiliary views, sections, pictorials, and dimensioning. Practical and realistic math problems associated with drafting topics will also be covered.

CDDT 170 Computer Aided Drafting I, 3 credits.

Computer Aided Drafting I explores the fundamentals of computer- aided drafting (CAD) with emphasis placed on drawing set-up, creating and modifying geometry, storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinate systems; as well as using computer input and output devices.

CDDT 171 Computer Aided Drafting II, 3 credits.

Computer Aided Drafting II emphasizes advanced CAD techniques, including CAD system customization. The student will be introduced to advanced applications used to customize and program a CAD system. Skills learned include, but are not limited to, menu and toolbar customization, use of accelerators, aliases and scripts, importing and exporting files, attribute data, and introduction to data base links.

CDDT 123 Parametric Modeling, 3 credits.

Creation of 2D parametric profiles that will be transformed into 3D models will be taught. Models will be used to create drawings that are similar to those used in the industry. Presentation drawings of these models will be included within this course curriculum.

MATH 150 COLLEGE ALGEBRA, 3 credits.

Students learn how to interpret mathematical symbols and notations, simplify expressions, factor polynomials, solve equations (including absolute value, quadratic and systems of linear equations), perform operations on radical expressions, write equations of lines and evaluate functions.

ENG 100 TECHNICAL COMMUNICATIONS, 3 credits.

This course provides an introduction to professional and technical writing appropriate to the students' future professional lives. It emphasizes thorough practice in the organization and writing of technical documents, locating and using appropriate information, communication, and career seeking skills.

Second Semester

CDDT 120 Descriptive Geometry, 3 credits.

The descriptive geometry branch of geometry is concerned with the two-dimensional representation of three-dimensional objects. By means of such representations, geometrical problems in three-dimensions may be solved in the plane. The graphical analysis of points, lines, and planes that are used in the development of Euclidean plan geometry problems will be covered. Terms, definitions, and axioms will be discussed during the scope of this course. Algebraic functions will be applied to specific problems to compute and determine measurement results. Students will use critical thinking, problem-solving, mathematical calculations, and appropriate technology to solve spatial problems. This course will use hands-on activities to reinforce descriptive geometry theorems.

CDDT 130 Architectural Drafting I, 7 credits.

This course prepares students in the area of architectural drafting for an entry level position under an architect or engineer. Students develop a complete set of residential floor plans using latest AutoCAD software.

CDDT 131 Architectural Drafting II, 7 credits.

This course builds on the foundation of Architectural Drafting I. Students develop a complete set of commercial floor plans using the latest AutoCAD software.

CDDT 140 Structural Steel Detailing, 3 credits.

This course prepares the student in the area of structural steel drafting for an entry level position. Students cover proper symbols and terminology.

CDDT 145 Civil Drafting, 7 credits.

Students learn to identify and draw different types of maps, identify different types of surveys, calculate leveling fields, global positioning systems, map symbols, and legal descriptions.

Construction Technology

Construction Technology Certificate

First Semester	Credits	Second Semester	Credits
CT 100 Orientation/Introduction	1	CT 135A Masonry/Brick	5
CT 110 Power and Hand Tools	3	CT 135B Masonry/Brick	5
CT 120 Blueprints and Building Codes	2	CT 155 Drywall/Insulation/Ventilation	3
CT 130 Residential Concrete Construction	2	CT 160 Painting/Finishing/Interior	2
CT 140A Framing/Flooring	2	CT 170 Cabinet Making/Installation	2
CT 140B Framing/Wall	2	CT 180 Interior Finish	4
CT 140C Framing/Roof	2	CT 190 Work Place Skills	1
CT 150 Exterior Finish	4	TOTAL CREDITS:	22
TOTAL CREDITS:	18	TOTAL CERTIFICATE CREDITS:	40

Associate of Applied Science Degree: 60 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section plus 5 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

The nine-month Construction Technology program at Salina Tech is aligned with today's industry standards. Commercial and residential building techniques are incorporated to give graduates a broad range of career choices. Important skills such as power and hand tool use, skid loader and backhoe operation, brick and block laying, and all phases of concrete work are developed. Other instruction areas covered are flooring, wall and roof framing, interior and exterior finishing, painting, design, drywall, ventilation, insulation and cabinet installation. Students learn to work with blueprints and building codes and increase employability skills by working with customers as they perform construction projects in the Salina area and on campus. Often students use this experience as a stepping stone to a construction science or engineering bachelor's degree.

Career Opportunities: Structural Framing, Exterior/Interior Finishing, Concrete Forming/Finishing, Brick and Block Laying.

Construction Technology Course Descriptions

First Semester

CT100 Orientation/Introduction, 1 credit.

This is a required course for all students entering the Construction Technology Program. It prepares students for employment in residential and commercial building trades. The intent of this course is to teach basic construction safety. It is very important for students to learn the proper way to conduct themselves while in the shop or on the job site. This course will cover shop safety, tool safety, personal protective devices, protective railings, proper storage of construction materials, student alertness, and job site safety.

CT 110 Power and Hand Tools, 3 credits.

Students are instructed in the identification and proper use and care of both hand and power tools. In addition, the student will demonstrate the safe use and appropriate maintenance for hand and power tools.

CT 120 Blueprints and Building Codes, 2 credits.

This course identifies the importance of accurately reading blueprints and integrates current building codes and zoning ordinances in building construction. Students are instructed in building layout and the use of a variety of measuring, leveling, and layout tools.

CT 130 Residential Concrete Construction, 2 credits.

The course covers concrete footings, foundations, forming and flatwork. Concrete mixing, reinforcement, finishing and curing will be covered along with site preparation, properties of concrete, and the proper use of tools. Proper safety practices will also be emphasized.

CT 140A Framing/Flooring, 2 credits.

The student will learn to use a combination of hand tools to layout, cut and assemble floor systems.

CT 140B Framing/Wall, 2 credits.

The student will learn to use hand and power tools to layout, cut, and assemble exterior and interior wall systems.

CT 140C Framing/Roof, 2 credits.

The student will learn to use a combination of hand and power tools to layout, cut, and assemble roof systems.

CT 150 Exterior Finish, 4 credits.

Students will be instructed on the stage of construction which completes the exterior of the building. The order of installation may be changed, but the processes include: roofing, housewrap, windows and doors, and siding. These processes typically are occurring at the same time the trade groups are completing “rough” work in electrical, plumbing, and HVAC.

Second Semester

CT135A Masonry/Brick, 5 credits.

The student will receive instruction in the elements of masonry including: the history of mortar, brick, interpreting blueprints, and estimating project supplies including sand, mortar, and brick. Students will also lay brick to a line, build brick leads, and mix mortar.

CT135B Masonry/Block, 5 credits.

The student will receive instruction in the history of mortar, block, and interpreting blueprints. The student should be able to estimate materials for a project including sand, mortar, and block. The student will lay block to a line, build block leads, mix mortar by hand and mix mortar with a power mixer.

CT155 Drywall / Insulation/Ventilation, 3 credits.

The student will learn to identify various types of drywall, estimate material needs, and install, finish, and texture drywall. Proper selection (R-U values) of insulation and insulation installation methods will be taught. Skills to help calculate proper sizing for ventilation purposes are also included.

CT 160 Painting/Finishing/Interior, 2 credits.

The student will learn to properly apply chemical coatings applicable to residential construction. These coatings include paints, stains, clear finishes, textures, and other decorative finishes.

CT 170 Cabinet Making/Installation, 2 credits.

The student will learn basic cabinet and counter top construction and installation.

CT 180 Interior Finish, 4 credits.

The student will learn the fundamentals of finishing interior building construction. This is the final stage in the construction process. Students will receive instruction about specialized tools and techniques. This course will cover trimming and installing doors and windows, and the selection and installation of appropriate decorative trim and hardware.

CT 190 Work Place Skills, 1 credits.

The course will emphasize the skills needed to be successful in the workplace including the skills needed to obtain and maintain employment.

Dental Assistant

Dental Assistant Certificate

First Semester	Credits	Second Semester	Credits
DA 101 Fundamentals in Dental Assisting	3	DA 207 Dental Office Procedures	2
DA 111 Dental Health Education	2	DA 227 Dental Materials II	2
DA 121 Anatomy for Dental Assisting	3	DA 232 Chairside Assisting II	2
DA 127 Dental Materials I	4	DA 237 Dental Radiology II	2
DA 132 Chairside Assisting I	6	DA 241 Clinical Experience	8
DA 137 Dental Radiology I	2	DA 245 Dental Science	2
DA 141 Pre Clinical	3	TOTAL CREDITS:	18
TOTAL CREDITS:	23	TOTAL CERTIFICATE CREDITS:	41

Associate of Applied Science Degree: 60 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section plus 4 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

The updated technology and equipment, large labs, and highly qualified, dedicated staff set the Salina Tech Dental Assistant program apart from other programs in Kansas. The Program is recognized throughout the nation as being accredited by The American Dental Association Council on Dental Accreditation. Students learn to provide dental care in chairside assisting, dental radiology, office procedures, lab procedures and dental health education. During their nine months of instruction, dental assistants also gain knowledge of the field in dental science, anatomy for dental assistants, and dental materials. The student in the Dental Assistant program will gain over 300 hours of clinical experience at a variety of dental offices. Graduates of the program may choose to go on to pursue a degree in dental hygiene. Call today for information, this program fills up fast!

Career Opportunities: The types of practice settings include solo and group dental practices. Specialty practices that may include: Oral and Maxiofacial Surgery, Pediatric Dentistry, Endodontics, Periodontics, Prosthodontics, Dental assistants may also choose to work for a dental supply house, the public health sector, an insurance company processing dental claims, a dental laboratory, another type of medical or hospital setting.

Dental Assistant Course Descriptions

First Semester

DA101 Fundamentals in Dental Assisting, 3 credits.

Introduction to the career of dental assisting includes: dental terminology and spelling; education requirements, functions and credentials of all dental team members; ethics and statutes; communication skills; professionalism and job seeking skills. Introductory business office procedures, greeting and receiving patients, telephone technique, filing and patient record management are also included.

DA111 Dental Health Education, 2 credits.

Introduction to dental health education, basic nutrition, and patient teaching. Included will be a study of periodontal disease, its risks and preventative measures. Basic skills of oral hygiene instruction, fluoride treatments and coronal polishing of the teeth will be implemented.

DA121 Anatomy for Dental Assisting, 3 credits.

This course covers identification and function of human body systems, the development of the oral cavity and teeth and supporting structures. The permanent and primary dentitions are covered as well as the major anatomic landmarks of the head and neck.

DA127 Dental Materials I, 4 credits.

This course includes identification of materials used in general dentistry. Physical and chemical properties, requirements and limitations, functions and classification will be determined. Proper manipulation of materials, their uses and proper storage will be practiced. Various lab procedures will be studied and practiced so the student will understand the importance of each step in a procedure. The student will be instructed in and expected to demonstrate the safe operation of laboratory equipment.

DA132 Chairside Assisting I, 6 credits.

This course gives an introduction to the operation and care of major dental equipment, identification and care of hand and rotary instruments, and safety factors relating to instruments and equipment. Introduction and practice of basic duties and responsibilities include: seating and dismissing the dental patient, oral evacuation, retraction, and instrument transfer. The study of dental anesthesia and restorative dentistry with practice in application of matrix bands and rubber dams will also be covered. Also included is a study of the introductory principles of microbiology, classification and characteristics of microbes with primary consideration to pathogenic microorganisms, causes of disease, transmission of infectious diseases, immune response, universal precautions, handling of hazardous materials and infection control techniques according to OSHA and ADA guidelines.

DA137 Dental Radiology I, 2 credits.

Introduction to the basic principles of diagnostic radiography, history and properties of x-radiation, x-ray equipment, protective measures and regulations, bisecting and/or paralleling techniques, extraoral radiology, infection control, anatomical landmarks and pathology.

Instruction and laboratory techniques include exposure, processing, mounting and evaluation of dental films using the DXXTR manikin.

DA141 Pre Clinical, 3 credits.

This course is an introduction to the clinical aspects of the dental office. Students will observe in area dental offices and begin to practice and apply the clinical and laboratory skills learned in the course.

Second Semester

DA207 Dental Office Procedures, 2 credits.

This course will provide instruction in dental charting, recording services rendered, supply and inventory control, appointment control and recall, accounts receivable, collections, expenses and disbursements, banking procedures, dental insurance, and job seeking skills.

DA227 Dental Materials II, 2 credits.

This course is a continuation of Dental Materials I and will include identification of materials used in general dentistry and dental laboratory procedures. Physical and chemical properties, requirements and limitations, functions and classifications will be determined. Proper manipulation of materials, their uses and proper storage will be practiced. Various laboratory procedures, construction of base plates and bite rims, bleaching trays, and a retainer will be practiced so the student will understand the importance of each operation in a procedure. The student will be instructed in and expected to demonstrate the safe operation of laboratory equipment.

DA232 Chairside Assisting II, 2 credits.

Continuation of Chairside Assisting I. This course will provide a foundation for assisting in the remaining dental specialties: fixed prosthodontics, oral and maxillofacial surgery, endodontics, periodontics, removable prosthodontics, orthodontics and dentofacial orthopedics, and pediatric dentistry. Procedures, instruments and materials involved in these areas will be studied.

DA237 Dental Radiology II, 2 credits.

Students will recognize anatomical structures, diseases of the dental pulp and the oral soft tissues on radiographs. This course also includes a review of x-ray production, quality control, and assurance of diagnostic radiographs. This course will involve more intensive experience in exposing, processing and mounting intraoral films using the Dxxtr manikin and patients. Students will be closely supervised and evaluation will be made of each completed survey. Radiographic safety and infection control procedures are emphasized.

DA241 Clinical Experience, 8 credits.

In a variety of dental practice settings (both general and specialty), the student will demonstrate the principles of chair side assisting, dental laboratory procedures and business office procedures.

DA245 Dental Science, 2 credits.

This course will provide the student with knowledge of emergencies that may arise in the dental setting. The student will be expected to recognize signs and symptoms of emergencies and will assist in delivery of suggested treatment. Basic first aid and skills in taking and recording vital signs will be covered. Students will be introduced to common drugs used in dentistry, indications, contraindications, dosages and methods of administration and storage. This course will also provide instruction in normal and oral pathological conditions.

Diesel Technology

Diesel Technology Certificate

First Semester		Credits		Third Semester		Credits	
DT 105 Basic Engines		7		DT 205 Torque Converters & Power Shift Transmissions		7	
DT 120 Electrical Systems		8		DT 210 Hydraulics, Hydrostatic Drive, Steering & Suspension Systems		8	
TOTAL CREDITS:		15		TOTAL CREDITS:		15	
Second Semester		Credits		Fourth Semester		Credits	
DT 110 Basic Power Trains & Cab Air Conditioning		8		DT 215 Diesel Fuel Injection Systems		7	
DT 115 Brakes-Hydraulic & Air		7		DT 220 Major Diesel Engine Overhaul, Dyno Testing & Tune-Up		7	
TOTAL CREDITS:		15		TOTAL CREDITS:		14	
				TOTAL CERTIFICATE CREDITS:		59	

Associate of Applied Science Degree: 74 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information.

Diesel technicians repair and maintain the diesel engines that power transportation equipment such as semi-trucks, buses, locomotives, and mobile equipment, including bulldozers, cranes, road graders, farm tractors, and combines. Technicians must be versatile to adapt to needs of customers and new technologies including the use of a variety of electronic and computerized testing equipment to pinpoint and analyze malfunctions in electrical systems and engines. Diesel careers can take you from a repair shop, to a farmer's field or construction site, to a company maintaining their vehicle fleet, to the transportation authority of a large city or railway, to working on semi-trucks, or to an agricultural implement dealership. Technicians may work on a vehicle's electrical system one day and do major engine repairs the next. In eighteen months Salina Tech Diesel Technology students are trained in this high tech field through classes and hands-on projects in our top-of-the-line facilities.

CAREER OPPORTUNITIES: Service Representative, Sales and Parts Representative, Small Business Owner, Fuel Injection Specialist, Diesel Technician, Service Manager, Store Manager.

Diesel Technology Course Descriptions

First Year/First Semester

DT 105 Basic Engines, 7 credits.

This course covers the theory of operation, principles and construction of two and four stroke cycle, single and multiple cylinder engines. It includes timing the engine to factory specifications, disassembly, inspect, measuring all parts and compare to factory specifications. Reassemble and make all adjustments. Performance is exhibited by assembly adjustment and running the engine.

DT 120 Electrical Systems, 8 credits.

Basic electrical principles and application of magnetism and electromagnetism including the design, operation, and testing of lead acid batteries are taught. Course material also includes the use and operation of electrical meters: principles of operation and testing procedures for cranking motors, switches, drives and operation, testing, and repair of AC charging systems.

First Year/Second Semester

DT 110 Basic Power Trains and Cab Air Conditioning, 8 credits.

This course covers the theory of power transmissions from the engine to the rear wheels including clutch, transmission, drive line, differential, and rear axle. Disassembly, inspection, adjustments, and reassembly of single and double countershaft transmission and differential are covered. The diagnostic theory, identification of components, and service of cab air conditioning are studied.

DT 115 Brakes– Hydraulic and Air, 7 credits.

Students study the theory of hydraulic and air brakes, disassembly and reassembly, inspection of master cylinder, wheel cylinders, brake assemblies, and power brake units. Also included in this section are the operation, inspection and troubleshooting of air compressors, foot and hand valves, relays, tractor protection valves, air driers, moisture ejectors, cam type, wedge type air disc brakes, air brake chambers, spring brake chambers, and trailer air brake systems.

Second Year/First Semester

DT 205 Torque Converters and Power Shift Transmissions, 7 credits.

Instruction includes principles and application of the operation, disassembly, failure analysis, rebuilding, testing, and troubleshooting of torque converters, countershaft and planetary power shift transmissions. Manual, automatic, and electronic shifting in valve controls are covered.

DT 210 Hydraulics, Hydrostatic Drive, Steering, and Suspension Systems, 8 credits.

Students learn the principles and application of operation, disassembly, failure analysis, rebuilding, testing, and troubleshooting for pumps, actuators, reservoirs, lines, fittings, fluids, hydrostatic drives, steering systems, and pilot operated systems and electronic hydraulics.

Second Year/Second Semester

DT 215 Diesel Fuel Injection Systems, 7 credits.

This course covers the principles, applications, and operations of removing, testing, rebuilding calibrating, timing and installation of the four major diesel fuel injection systems including: distribution pumps, inline diesel pumps, PT pump/injectors, and unit injection systems. Course material also includes the operation and troubleshooting of electronic fuel systems.

DT 220 Major Diesel Engine Overhaul, Dyno-Testing & Tune-up, 7 credits.

This course is designed to cover the diagnosis and dyno testing for the major engine overhaul of various diesel engines (tune-up/overheads) including parts estimate, flat rate overhaul hours, removing, disassemble, failure analyses, rebuilding, dyno break-in installation and final touch-up painting of the overhauled engine.

Environmental Technology

Clean water is essential for everyday life. Environmental technicians and water treatment plant and system operators treat water so that it is safe to drink as well as remove harmful pollutants from domestic and industrial liquid waste so that it is safe to return to the earth. Industrial facilities that send their wastes to municipal treatment plants must meet certain minimum standards to ensure that the wastes have been adequately pretreated and will not damage municipal treatment facilities. Plant operators must be familiar with the guidelines established by Federal regulations and how they affect their plant. In addition, operators must be aware of any guidelines imposed by the State or locality in which the plant operates. Employment is concentrated in local government and private water, sewage, and other systems utilities. Through Salina Tech's 18-week environmental technology program and workshop options, municipalities or businesses can train new employees and update the skills of the current workforce.

Associate of Applied Science Degree:

This program does not offer an Associate of Applied Science degree at this time.

Environmental Technology Course Descriptions

ET 105 Wastewater Treatment Plant Operation & Maintenance, 6 credits

ET 110 Wastewater Treatment Plant Operation & Maintenance JSI, 10 credits

This 18-week class is for Wastewater Treatment Facility operators and collection system personnel who want to learn more about operation and maintenance of Wastewater Treatment Facilities. Topics such as design, operation, safety, collection systems, wastewater characteristics, treatment units, maintenance, basic and applied math and lab will be discussed.

This course will help to prepare wastewater and collection system personnel for certification, as well as improve their knowledge and help them to work safely.

ET 115 Potable Water Systems, Operation and Maintenance, 6 credits

ET 120 Potable Water Systems, Operation and Maintenance JSI, 10 credits

This course is designed for students who are interested or are working in the profession of Water Treatment Operation or who desire to obtain Operator Certification from Kansas Department of Health & Environment. It covers all aspects of Potable Water Treatment from Water Chemistry, Hydraulics, Clarification, Filtration, plus much more. Students will perform hands-on competencies in laboratory and be familiar with extensive operator math.

ET 135 Management Municipal Utilities, 6 credits

ET 140 Management Municipal Utilities JSI, 10 credits

This course is designed for the serious operator who would like to grow professionally in the management of Public Utilities. We will examine development of communication skills, time management skills, financial reporting, and evaluation techniques. Students will work to develop skills needed in public relations, workplace motivation, and maintaining a productive work environment.

ET 155 Collection Systems Operations & Maintenance, 6 credits

ET 160 Collection Systems Operations & Maintenance JSI, 10 credits

This 18-week class is for collection system personnel and wastewater operators who want to learn more about their collection systems. The class will cover topics such as Basic Terminology; Purpose, Components and Design; Street Safety; Confined Space Safety; Manhole Inspection; CCTV Inspection; Smoke Testing, and more.

Also, collection systems math and basic wastewater treatment topics will be discussed. This course will help to prepare collection system personnel for Collection Systems certification, as well as improve their knowledge and help them to work safely.

HVAC

HVAC Certificate

First Semester	Credits	Second Semester	Credits
RF 105 Basic Fundamentals & Cycles of Refrigeration	11	RF 115 Domestic & Commercial Refrigeration	11
RF 110 Basic Electricity & Electrical Components	11	RF 125 Summer & Winter Air Conditioning	11
TOTAL CREDITS:	22	TOTAL CREDITS:	22
		TOTAL CERTIFICATE CREDITS:	44

Associate of Applied Science Degree: 62 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section plus 3 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

Heating and air-conditioning systems control the temperature, humidity, and the total air quality in residential and commercial buildings. Refrigeration makes it possible to store and transport food, medicine, and other perishable items. Heating, air-conditioning, and refrigeration technicians install, maintain, and repair such systems. Salina Tech HVAC students work on a variety of new and old furnaces, air conditioners, heat pumps, reach-in and walk-in coolers, ice machines and sheet metal equipment. Diagnosing problems, controlling computerized systems, repairing and charging units, and building duct work are among some of the areas covered in the shop and at customer work sites. Over 14 years of knowledge and experience from our instructor readies graduates in nine months to work in residential or commercial settings earning competitive wages.

HVAC is open to high school juniors and seniors who qualify and postsecondary students. High school students have the option of renting tools from Salina Tech or purchasing their own. Tools and uniforms are purchased from vendors. Only a limited number of tool kits are available. Enrollment does not guarantee availability of rental tools.

Career Opportunities: Commercial and Domestic, Service Technician, Service Manager, Business Owner.

HVAC Course Descriptions

First Semester

RF105 Basic Fundamentals and Cycles of Refrigeration, 11 credits.

This course covers the theory and operation of the basic refrigeration cycle, refrigerant metering devices, including capillary tubes, thermostatic expansion, and automatic expansion valves, basic sheet metal and math.

RF110 Basic Electricity and Electrical Components, 11 credits.

The course covers theory, operation, and construction of controls and circuits using capacitors, relays, switches, and control devices. Series and parallel circuits, schematic diagram reading, use of meters and electrical measuring devices, system check out procedures, and volt meter and Ohm meter troubleshooting methods are included.

Second Semester

RF115 Domestic and Commercial Refrigeration, 11 credits.

Theory, operation and construction of various types of refrigerators, freezers, icemakers, commercial walk-in and reach-in refrigerators and freezers are covered. Complete service analysis on all types of systems, components wiring analysis by use of meters, schematics, and systematic troubleshooting and repair procedure is taught.

RF125 Summer and Winter Air Conditioning, 11 credits.

The course includes theory, operation, and repair of gas and electrical furnaces. Instruction includes troubleshooting, system analysis, and repair of window and central air conditioners, compressor identification and replacement, control components, fan motors, various types of compressors, proper cleaning, charging and maintenance procedures, methods and sources for repairs, parts and source alternatives.

Machine Tool Technology

Machine Tool Technology Certificate

First Semester	Credits	Second Semester	Credits
MATH 105 Intermediate Algebra	3	MS 121 Engine Lathe Operation II	8
RL 270 Shop Safety	1	MS 200 CNC Machine Fundamentals	9
MS 110 Blueprint Reading	4	MS 130 Special Projects	5
MS 115 Precision Measurement	2	TOTAL CREDITS:	22
MS 120 Engine Lathe Operation I	4	TOTAL CERTIFICATE CREDITS:	45
MS 125 Milling Machine Operation	9		
TOTAL CREDITS:	23		

Associate of Applied Science Degree: 60 Credits. To complete the Associate of Applied Science Degree, select 12 more credits from the General Education requirements found in the Degree and Certification Information section plus 3 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

Machinists are an integral part of the manufacturing process. Because the technology of machining is changing rapidly, machinists must learn to operate a wide range of machines. Some newer machines use lasers, water jets, or electrified wires to cut the piece of material—generally different types of metals, plastics, or woods. They use lathes, milling machines, and machining centers, to produce precision metal parts. Although they may produce large quantities of one part, they often produce one-of-a-kind items. Machinists plan and carry out the operations needed to make products that meet precise specifications laid out by drafters, architects, engineers, and programmers, or mechanics who must fabricate a part or product. Salina Tech's nine-month program and hands-on learning opportunities includes CNC machine, lathe, and milling process learning that creates competitive graduates for today's machining industries.

Career Opportunities: Assembly Person, Machine Operator, Machinist, Tool and Die Maker, Tool Room Technician, Methods and Standards, Quality Control, CNC Operator, CNC Programmer, Management.

Machine Tool Technology Course Descriptions

First Semester

MATH 105 INTERMEDIATE ALGEBRA, 3 credits.

The focus of this course is to prepare the student for College Algebra. Students will learn how to perform common calculations in several applied occupational fields.

RL 270 Shop Safety, 1 credit.

Students will apply Machine Tool Technology safety rules, conditions for a safe work environment, fire safety rules and prevention.

MS 110 Blueprint Reading, 4 credits.

Students learn how to interpret symbols, dimensions, and views on drawings, while preparing projects on various production machines. Geometric dimensioning and tolerance is included in this course.

MS 115 Precision Measurement, 2 credits.

Students will learn to define measurement terms, systems, and principles, as well as identify, describe, and care for semi-precision/precision measurement tools. The student will learn to measure using precision instruments such as micrometers, gage blocks, verniers, dial indicators, and dial calipers.

MS 120 Engine Lathe Operation I, 4 credits.

In this course students will learn to identify types and parts of the lathe, lathe accessories, lathe operations and tooling, and freehand grind tools. Students will also be able to calculate speeds and feeds and depth of cuts.

MS 125 Milling Machine Operation, 9 credits.

This course covers milling machine terms, milling machine parts, types, operations and functions of milling machines. Students will follow guidelines for the safe operation of milling machines and identify various types of cutting tool and applications, determine cutting tool variables; calculate and set correct cutting speeds, RPMs and feed rates.

Second Semester

MS 121 Engine Lathe Operation II, 8 credits.

The course will cover proper maintenance procedures and calculate tapers and American National thread forms. Students will learn selection of work holding, sequence of operations, method of operations, and tool materials. In addition alignment of lathe centers, setting up and machining work pieces according to blueprint specifications, and setting up steady and follower rests will be covered. The student will be able to groove, undercut, thread, and taper.

MS 200 CNC Machine Fundamentals, 9 credits.

In this course students will learn safety guidelines and principles of numerically controlled machining. The student will be able to demonstrate an understanding of the coordinate system used in numerical control, basic axis movements, CNC machine operations, cutter center line offsets, the CNC programming process, and programming codes.

MS 130 Special Projects, 5 credits.

This is an advanced course designed for students to apply their knowledge and skills to various types of machining projects. Students must meet exact verbal specifications, sketch the verbal specifications if no blueprints provided and/or produce machined parts from blueprints.

Medical Assistant

Medical Assistant Certificate

First Semester	Credits	Second Semester	Credits
MA 101 Professional Issues	2	MA 120 Diagnostic Procedures	2
MA 102 Introduction to Computers	1	MA 121 Patient Care II	4
MA 103 Medical Terminology	3	MA 123 Administrative Aspects II	4
MA 110 Human Body	3	MA 125 Clinical Laboratory Procedures	4
MA 111 Patient Care I	3	MA 131 Clinicals for the Medical Assistant	4
MA 113 Administrative Aspects I	3		
MA 115 Insurance Billing and Coding	3	TOTAL CREDITS:	18
MA 117 Pharmacology	3	TOTAL CERTIFICATE CREDITS:	39
TOTAL CREDITS:	21		

Associate of Applied Science Degree: 60 Credits. To complete the Associate of Applied Science Degree, select 15 more credits from the General Education requirements found in the Degree and Certification Information section plus 6 credits from other technical education courses. Visit with your instructor or the Director of Student Services for possible options.

Medical assistants perform tasks to help keep the offices of physicians and other health practitioners, laboratories, clinics, hospitals, surgery centers, and other organizations such as American Red Cross Blood Banks running smoothly. They can perform administrative tasks like updating and filing medical records and arranging for hospital admissions as well as other general office procedures like managing multi-line phones and patient waiting room. Common clinical tasks also include taking medical histories and recording vital signs, explaining treatment procedures to patients, preparing patients for examinations, collecting specimens and performing basic laboratory tests, and sterilizing medical instruments. They instruct patients about medications and diets, prepare and administer medications as directed by a physician, telephone prescriptions to a pharmacy, draw blood, prepare patients for x-rays, take electrocardiograms, give shots, remove sutures, and change dressings. Sign up today to reserve your spot in the nine-month Medical Assistant program at Salina Tech that includes over 300 hours of supervised clinical experience!

Admission Requirements

- Be 17 years of age or older and 18 years of age at program completion.
- Successfully complete preadmission testing (Testing available at Salina Tech).
- Score 60 or higher on the ACT Compass for reading and score 45 or higher on the ACT Compass for math.
- Upon acceptance, complete necessary health examinations and immunizations prior to the first day of class.
- Have a high school diploma, a GED, or earn a GED before program completion.

- Submit a high school transcript or GED certificate.
- Complete the application and pay the campus fee.

Program Requirements

Clinical Participation

- Students must earn a minimum of 80% in the following first semester courses: Patient Care I, Pharmacology, Human Body, and Professional Issues.
- Students must maintain a minimum of 80% in the following second semester courses: Patient Care II, Diagnostic Procedures, Medical Office Lab.
- Students must have a minimum of 90% attendance in the program.
- Students must pass background and drug testing.

Note: It is strongly recommended that students work a limited number of hours due to the heavy curriculum load that is required by this program.

Medical Assistant Course Descriptions

First Semester

MA 101 Professional Issues, 2 credits.

This course focuses on the basic concept of professional practice of medicine and the role and function of the medical assistant. Students discuss the personal and professional characteristics and legal and ethical standards for medical assistants, explore professional and personal therapeutic communication, and address time management and goal setting.

MA 102 Introduction to Computers, 1 credit.

The course is a brief introduction to computers to include: computer hardware, software, Microsoft Office application skills, keyboarding skills, the Internet and Internet searching, careers and computer ethics.

MA 103 Medical Terminology, 3 credits.

The content of this course focuses on the introduction to medical terminology. Vocabulary is explored to structure of word, prefixes, suffixes and root words. Emphasis is on proper usage, pronunciation, spelling and definition of each of the structures commonly used in the medical field.

MA 110 Human Body, 3 credits.

This course focuses on the basic structure and function of the human body, from cells through systems to the human organism, with emphasis on the interaction of systems and physiological functions.

MA 111 Patient Care I, 3 credits.

This course introduces basic clinical skills necessary for medical assistants. It presents aseptic practices for the medical office and studies patient interaction such as interviewing, obtaining, evaluating and documenting vital signs and assisting with basic physical exams and testing.

MA 113 Administrative Aspects I, 3 credits.

This course contains the administrative skills of the health care team member. These skills include effective telephone techniques, scheduling patients for appointments, management of facilities, records management, and use of office equipment.

MA 115 Insurance Billing and Coding, 3 credits.

This course is designed to educate the health care team member with the mechanics of submission of electronic/paper insurance claim forms and current industry coding for medical office treatments and procedures.

MA 117 Pharmacology, 3 credits.

Focus is on the medical assistant's role in the calculation, preparation and administration of various medications. Studies include administration of injectable, topical, oral and buccal medications. Return demonstrations are also required.

Second Semester

MA 120 Diagnostic Procedures, 2 credits.

Course content focuses on the specialized procedures associated with the human body systems covered in MA 110 Human Body.

MA 121 Patient Care II, 4 credits.

This course focuses on expanding the knowledge gained in MA 111 Patient Care I and MA 117 Pharmacology. It presents more complex and independent procedures performed by the medical assistant. Minor surgical procedures, physical therapy, sterile procedures, emergency procedures and medication administration by injection and intravenous are addressed.

MA 123 Administrative Aspects II, 4 credits.

This course combines previous coursework as an introduction to the expanded role of the medical assistant as the medical office manager. Students produce and edit medical transcriptions from a series of taped reports and prepare a variety of medical documents. Professional communications, job-seeking and interviewing skills, expanded practice in topics covered in Administrative Aspects I and other skills include effective telephone techniques, scheduling patients for appointments, management of facilities, records management, and use of office equipment.

MA 125 Clinical Laboratory Procedures, 4 credits.

This course addresses the role and function of the professional in the clinical laboratory setting. Topics include safety, Clinical Laboratory Improvement Act of 1988 (CLIA) government regulations, and quality assurance in the laboratory. Students learn concepts and perform procedures in the different departments of the laboratory, including specimen collection, and performance of CLIA 88 low-and/or moderate-complexity testing. Students demonstrate competency in a wide variety of techniques used to collect, process and test specimens.

MA 131 Clinicals for the Medical Assistant, 4 credits.

This is the application phase of the Medical Assistant program which is designed to give students an opportunity to apply and practice the principles and procedures learned while participating in supervised, non-remunerative clinical experiences in physicians' offices and clinics. Students are expected to adapt to the rules and routines of the individual medical office. Evaluation is based on the student's preparation for duties, active participation, attendance and professionalism.

Welding Technology

Welding Technology Certificate

First Semester	Credits	Second Semester	Credits
WELD 105 Welding Theory	2	WELD 215 Gas Metal Arc Welding II	6
WELD 150 Welding Blueprint Reading	4	WELD 223 Core Wire Welding	2
WELD 110 Oxy-Fuel Welding	2	WELD 116 Gas Tungsten Arc Welding I	2
WELD 106A Cutting Processes	2	WELD 216 Gas Tungsten Arc Welding II	5
WELD 111 Shielded Metal Arc Welding I	3	WELD 120 Fabrication and Production	6
WELD 115 Gas Metal Arc Welding I	3	WELD 106B Cutting Processes	1
WELD 112 Shielded Metal Arc Welding II	3	WELD 121 Welding Specialization	5
MATH 101 Technical Math	3	TOTAL CREDITS:	27
TOTAL CREDITS:	22	TOTAL CERTIFICATE CREDITS:	49

Associate of Applied Science Degree: 61 Credits. To complete the Associate of Applied Science Degree, select 12 more credits from the General Education requirements found in the Degree and Certification Information section.

Welding is the most common way of permanently joining metal parts. Welding also is used to join beams when constructing buildings, bridges, and other structures and to join pipes in pipelines, power plants, and refineries. Skilled welders plan work from blueprints and determine how best to join the parts. Welders select and set up welding equipment, execute the planned welds, and examine welds to ensure that they meet standards or specifications. At Salina Tech welders learn to perform many different types of welds commonly used in various manufacturing industries in Kansas as well as across the nation. Students learn industry standards from our experienced instructor and hands-on practice with customer projects. Sign up today for our nine-month welding program and advance your career with valuable training and experience.

Career Opportunities: General Welders, Maintenance Welders, Production Welders, General Layout Technicians, Cutters, Burners

Welding Technology Course Descriptions

First Semester

WELD 105 Welding Theory, 2 credits.

This course prepares students to work in industrial welding shop settings. Students study the cause and prevention of accidents in shop and industry. First aid and emergency procedures are covered. Safety, housekeeping, proper use and maintenance of tools and equipment are emphasized.

MATH 101 TECHNICAL MATH, 3 credits.

The course covers basic mathematical skills common to all technical areas. Mathematical applications of the skills will be a focus in this course.

WELD 150 Welding Blueprint Reading, 4 credits.

This course is an introduction to blueprint reading and drawing procedures used in the production and fabrication areas of the welding industry. This course involves shape description, size description, and freehand sketching. It incorporates the reading and drawing of welding symbols as well as interpretation of industrial drawings used in the welding industry. The course includes applied math for welders, consisting of a review of fractions, decimals, percentages, ratio/proportion calculations, and tape measure reading. This course also includes applications to live welding projects.

WELD 110 Oxy-Fuel Welding, 2 credits.

This course introduces the basic principles and fundamentals of the oxy-fuel welding. Oxy-fuel processes, equipment, and safety is addressed along with the appropriate and safe methods of producing and handling industrial gasses. Students develop the skills needed to produce acceptable basic oxy-fuel welds.

WELD 106A Cutting Processes, 2 credits.

This course introduces metal cutting and includes cutting of ferrous and nonferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon arc cutting (CAC-A). Safety, equipment and the basic fundamentals of cutting processes are introduced.

WELD 111 Shielded Metal Arc Welding I, 3 credits.

This course includes hands on application of industrial welding components including safety, identification, set up, and use of shielded metal arc welding (SMAW) equipment. Students perform a variety of welds in the flat and horizontal positions with various electrodes.

WELD 115 Gas Metal Arc Welding I, 3 credits.

This course includes instruction on proper equipment set up, the development of technical and manipulative skills, and performance of correct safety precautions and techniques utilized in gas metal arc welding (GMAW). Welding Theory (WELD 105) is a prerequisite for this course.

WELD 112 Shielded Metal Arc Welding II, 3 credits.

This course continues the study of shielded metal arc welding providing more in-depth instruction on the identification, set up, and use of shielded metal arc welding in an industrial setting. The course reviews safety and equipment maintenance. Prerequisites for this course: Welding Theory (WELD 105) and Shielded Metal Arc Welding I (WELD 111).

Second Semester

WELD 215 Gas Metal Arc Welding II, 6 credits.

This course continues the development of skills and knowledge of gas metal arc welding. It includes a review of safety precautions and procedures and proper equipment set up. Advanced techniques on joint preparation and welding in all positions are emphasized. Prerequisites for this course: Welding Theory (WELD 105) and Gas Metal Arc Welding I (WELD 115).

WELD 223 Core Wire Welding, 2 credits.

This course provides instruction in the use of a variety of core wire electrodes. The student develops skills and knowledge in using various metals and joints and in performing various welds in all positions. Prerequisites for this course: Welding Theory (WELD105) and Gas Metal Arc Welding I (WELD 115).

WELD 116 Gas Tungsten Arc Welding I, 2 credits.

This course introduces the basic principles and fundamentals of gas tungsten arc welding. Students learn to safely set the power source of Gas Tungsten Arc Welding (GTAW) equipment to the correct parameters. Students perform GTAW welds on various metals, and in multiple positions, meeting industry standards. Prerequisite for this course: Welding Theory (WELD 105).

WELD 216 Gas Tungsten Arc Welding II, 5 credits.

This course continues the study of the principles and fundamentals of gas tungsten arc welding. Students review procedures to safely set the power source of a Gas Tungsten Arc Welding (GTAW) to the correct parameters. Students continue to develop their skills in performing GTAW welds on various metals, and in multiple positions, meeting industry standards. Prerequisites for this course: Welding Theory (WELD 105) and Gas Tungsten Arc Welding I (WELD 116).

WELD 120 Fabrication and Production, 6 credits.

This course covers welding processes used in industry including arc, oxyacetylene, MIG, soldering, brazing, fabrication, and spot welding testing, safety procedures and robotic equipment are also covered in the course.

WELD 106B Cutting Processes, 1 credit.

This course continues the development of skills and knowledge of cutting processes used in the welding industry. It includes metal cutting of both ferrous and nonferrous materials, and operation of manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon arc cutting (CAC-A). This course also focuses on

equipment maintenance and safety, and continued development of cutting technique skills. Prerequisite for this course: Cutting Processes (WELD 106A).

WT 121 Welding Specialization, 5 credits.

This course offers experience in all subjects included in the Welding Technology curriculum. Students work with intershield welding processes, aluminum spool gun, plasma arc cutting, arc air cutting and leveling, hardsurfacing and buildup, pipe welding, cutting and fit up. Previously learned skills are applied to fabrication of individual student projects. Prerequisite for this course: Fabrication and Production (WELD 120).

General Education Courses

CS 105 Introduction to Computer Applications & Concepts, 3 credits.

This course is an overview of basic computer operations, computer applications, ethics, and hardware. Skills gained in this course will provide a foundation for using technology in other courses.

ENG 100 Technical Communications, 3 credits.

This course provides an introduction to professional and technical writing appropriate to students' field of study and future professional lives. It emphasizes thorough practice in the organization and writing of technical documents, locating and using appropriate information, communicating with others, and career seeking skills. **Prerequisite:** Introduction to Computer Applications and Concepts or equivalent.

HUM 101 Ethics in the Workplace, 3 credits.

This course explores issues of ethics in our everyday life with focus on the challenges encountered in the workplace. The topics will range from personal to professional issues.

MATH 101 Technical Math, 3 credits.

The course covers basic mathematical skills common to all technical areas. Mathematical applications of the skills will be a focus in this course.

MATH 105 Intermediate Algebra, 3 credits.

The focus of this course is to prepare the student for College Algebra. Students will learn how to perform common calculations in several applied occupational fields. **Prerequisite:** C or better in Technical Math, ACT Compass Pre-Algebra score of 40 or higher, or test out of Technical Math with 80% or better on a comprehensive course exam.

MATH 150 College Algebra, 3 credits.

Students will learn how to interpret mathematical symbols and notations, simplify expressions, factor polynomials, solve equations (including absolute value, quadratic and systems of linear equations), perform operations on radical expressions, write equations of lines and evaluate functions. **Prerequisite:** C or better in Intermediate Algebra, ACT Compass Algebra score of 60 or higher, or quiz out of Intermediate Algebra with 80% or better on a comprehensive course exam.

PSY 101 General Psychology, 3 credits.

This General Psychology course provides an introduction to the scientific study of human behavior as it applies to daily living. The scope of this course includes history, basic theories, biological bases of behavior, development, cognitive processes, individual awareness, motivation, emotion, personal adjustment and social psychology.