

# Washburn Institution of Technology (Washburn Tech)



hands on . high tech . life changing

Washburn Tech provides high school students in USD 501 and other area districts with the opportunity to prepare for in-demand technical careers. They can earn industry-valued certificates, continue their education by earning an associate degree or enter the workforce. More than 94% of Washburn Tech graduates are employed or pursuing further education.

**Hands-On** - Students apply the knowledge they've learned

- Students have the opportunity to work independently, but also to work on team projects
- Students in many programs may demonstrate their skills through competition

**High Tech** - Washburn Tech offers 30 career programs, most of which are about 48 credits in length, in one of five divisions: Construction, Health Care, Human Services, Technology and Transportation.

**Life Changing** - Washburn Tech serves high school students from more than 20 Northeast Kansas high schools as well as post-secondary students. Approximately 400 high school students attend Washburn Tech each year, a higher ratio than any other technical education institution in Kansas.

Students have the opportunity to apply and expand their knowledge both in the classroom and, in many programs, by being involved in various community initiatives. Community or campus initiatives through which Washburn Tech Students have practiced and demonstrated their skills recently include:

- Auto Collision and Auto Service students and instructors team up for Recycled Rides. They repair donated vehicles and then give them to area families in need. In the fall of 2013, two more vehicles were donated which brings the total number of rides recycled to seven.
- Health care students conduct a semi-annual blood drive at Washburn Tech.
- Washburn Tech Student Government raised money for the fight against breast cancer by participating in the Making Strides Against Breast Cancer campaign.
- Graphics students partnered with Downtown Topeka, Inc. (DTI) on the Downtown Topeka Avenue Guide. The students sold ads to downtown Topeka merchants as well as designed those ads and the guide itself.
- Students in cabinet and millwork technology designed, built and installed cabinets for a group home at The Villages, which provides an emotionally supportive home for children and youth in need.
- In 2013, 59 Washburn Tech students medaled at the Kansas SkillsUSA competition, with 22 students winning gold medals and qualifying to compete nationally. At nationals, one student earned a silver medal while another earned the distinction of second best cabinetmaker in America, placing second in the WorldSkills Cabinetmaking Qualifying Trial.

## Attending Washburn Tech

High school students attend Washburn Tech for half the school day either in the morning or afternoon, five days per week. They attend classes at their high school the remainder of the school day. Most programs at Washburn Tech can be completed in four semesters with morning or afternoon attendance. A few programs can be completed in only one or two semesters. Washburn Tech programs are approximately 30% lecture and 70% hands-on.

Kansas high school students attend Washburn Tech tuition free due to Senate Bill 155. However, high school students are still responsible for the cost of books, supplies, tools or a tool maintenance fee, as well as other required fees. These costs vary by program. Topeka Public School students attend Washburn Tech on a part-time basis. Based on enrollment requirements for the program of interest, seniors only may attend full time second-semester.

## General Enrollment Requirements for Washburn Tech

A student must:

- Be 16 years of age and have junior or senior standing in high school
- Submit an application
- Submit a recommendation form
- Successfully complete the general entrance exam, WorkKeys, at the required level
- Submit a copy of their high school transcript and attendance records
- Conference with a Washburn Tech Advisor/Counselor
- If accepted pay a \$20 enrollment fee after receiving a cost sheet from Washburn Tech
- Be responsible for the cost of books, supplies, tools or a tool maintenance fee, and other required fees

### WorkKeys Entrance Tests

Students are required to take two WorkKeys entrance tests in order to qualify for admission:

- Applied Math
- Reading for Information

The required scores vary by program. Students who have ACT, COMPASS or other assessment scores may be able to use those scores to qualify. Please check with a Washburn Tech advisor or recruiter.

## Washburn Tech Pathways

The website [www.washburntech.edu](http://www.washburntech.edu) shows the pathways for each program and students who complete a technical certificate may be able to use those hours toward an associate degree awarded by the Washburn Board of Regents. The program descriptions are listed below.

### Technical Math 2 - 9105

This course includes concepts building on problem solving skills using the geometry, algebraic expressions and techniques for solving equati

### Applied Physics - 9110

This course is designed for the student who needs a broad base of physics knowledge and the ability to apply those principles on the job. Applied Physics teaches basic physics principles in an application-oriented setting. This course will be taught by a Washburn Institute of Technology teacher and may be taken for dual high school and college credit.

## CONSTRUCTION

### Building Technology - 9112

48-credit certificate 67 -credit AAS Degree

Building Technology is a practical technical program which will enable the student to develop the job skills and related technical skills to seek entry level employment in the construction trades. The Building Technology program is facilitated by a certified National Center for Construction, Education and Research (NCCER) instructor, general contractors and supply companies who teach and demonstrate their specified crafts along with promoting careers in the construction industry. The program utilizes the NCCER curriculum. Students also have the opportunity to earn EPA Section 608 Certification.

### Building Technology short certificate - 9116

25 credit certificate

The 25 credit certificate in Building Technology is a part-time program and is completed in one year. Students can use this as a foundation for several other construction programs.

### **Cabinet/Millwork - 9138**

48-credit certificate 67 -credit AAS Degree

The Cabinet/Millwork program provides the student with the knowledge and skills necessary to plan and complete cabinetry, furniture and millwork. Instruction includes both theory and hands-on activities through which students learn to work with prints, specifications and shop drawings, power tools, equipment in design, layout and construction of projects. Emphasis is placed on selecting proper materials, determining the best procedures, manufacturing parts to specification, assembling and finishing. Students work individually and in teams to plan, estimate and complete these projects.

### **Commercial and Heavy Construction**

43-credit certificate 62-credit AAS Degree

The Commercial and Heavy Construction Program introduces the basic skills used in commercial and heavy construction projects. The program is a challenging, career building educational experience for anyone who is serious about their future in construction. Courses are a combination of lecture and lab. Students have the opportunity for work-site experience with equipment utilizing skills acquired from the courses. Students must be 18 to enroll in this program.

### **Climate and Energy Control Technologies - 9119**

44-credit certificate 63-credit AAS Degree

The Climate & Energy Control Technologies program is designed to deliver the fundamental skills and knowledge necessary for entry-level positions in the field of Climate and Energy Control. Additional skills obtained through upper level courses will prepare students to work in light commercial and residential applications of heating, ventilation and air conditioning.

### **Electrical Technology - 9120**

28-credit certificate

one year program

The Electrical Technology program prepares students for employment in electrical construction and maintenance. Instructional areas include: safety; electrical theory; print reading; wiring; electrical construction; and residential/commercial electricity.

**Heating & Air Conditioning - 9609** - See Climate and Energy Control Technologies above

## **HEALTH OCCUPATIONS**

### **Health Care Technology - 9164**

13-credit certificate

The Health Care Technology program is designed to prepare graduates for entry level positions as Nurse Aides and Home Health Aides. The program provides the foundation for more advanced health care careers such as Practical Nursing and Surgical Technology. Nurse Aides and Home Health Aides may work in a hospital, long-term care facility, physician's office, clinics, assisted living facility or private home setting. Nurse Aides and Home Health Aides work under direct supervision of a licensed practical nurse or registered nurse to meet the basic needs of the individual patient. The Health Care Technology program introduces the student to basic patient care skills, medical terminology, basic medical math and systems of the human body. Hands-on experience in home health care and geriatric care is an integral part of the program. Graduates are eligible to receive a Nurse Aide Certificate and a Home Health Aide Certificate after passing the Kansas Department of Health and Environment exams. This is a part-time, one semester program. Students also may take the Certified Nurse Aide certificate.

### **Certified Nurse Aide -9164**

4-credit certificate

The Certified Nurse Aide (CNA) course is designed for the person seeking work as an entry level nurse under the direct supervision of a licensed practical nurse or registered nurse. The course provides the foundation for further education as a Home Health Aide, Certified Medication Aide, Practical Nurse or Surgical Technician. Nurse Aides may work in a long-term care facility, hospital, doctor's office or other health care areas.

### **Certified Medication Aide -**

Prerequisites: Certified Nurse Aide Certification, 16 years of age, Junior or Senior

The Certified Medication Aide (CMA) course is designed for the person seeking work in a long-term care facility. The CMA course introduces the student to basic concepts of medication administration including drug classifications, drug action, and nursing implications for specific drugs. Student participation in hands-on experience in a clinical setting is an integral part of the course. Upon completion of the course, students are eligible to receive a Medication Aide Certificate after passing the Kansas Department of Health and Environment exam. This course is recommended as a prerequisite for Practical Nursing.

### **Practical Nursing - 9504**

36-credit certificate

Post-secondary only

The Practical Nursing Program provides graduates with the knowledge, skills, attitudes and abilities needed to practice safely and effectively as an entry level practical nurse. Licensed Practical Nurses provide care by assisting registered nurses, nurse practitioners, physicians, chiropractors and dentists. The program is approved by Kansas State Board of Nursing.

Applicants must have a high school diploma or GED. Full time adult students can complete the program in one year and part-time students can complete the program in four semesters. Graduates are eligible to take the NCLEX-PN licensure exam.

### **Surgical Technology - 9166**

42-credit certificate, 63-credit AAS Degree

Post-secondary only

The Surgical Technology Program is designed to provide graduates with the knowledge, skills, attitudes and abilities needed to practice safely and effectively as an entry level Surgical Technologist. Instruction includes preparation of the operating room including instruments and surgical supplies, instrumentation during surgical procedures, and application of aseptic technique and sterilization procedures. Surgical technicians are required to perform with manual dexterity, lift heavy patients and equipment as well as exhibit physical stamina to stand for long periods of time. Graduates are eligible to take the National Certification Exam for Surgical Technicians. Applicants must have a high school diploma or GED. Full time adult students can complete the program in one year.

## **HUMAN SERVICES**

### **Business, Bookkeeping & Accounting - 9126**

48-credit certificate 64-credit AAS degree

Office Careers Technology

24-credit certificate

The Business Bookkeeping and Accounting program prepares students to obtain employment as an entry level accounting clerk. Instruction includes advanced accounting, advanced QuickBooks, basic business and office management skills. Professional standards and ethics in business are stressed as well as extensive training in computer software. Written and oral communication skills, including grammar, are emphasized as well as workplace skills. A minimum of 25 words per minute keyboarding is required. Students who complete the first year may be eligible for the Office Careers Technology certificate which prepares students for entry level administrative office positions that enhance their ability for promotion to advanced positions. The program provides extensive training in computer software including Microsoft Office and QuickBooks.

### **Early Childhood Professional - 9172**

25-credit certificate

The Early Childhood Professional program is designed to provide training in the processes and principles of growth and development of children from infancy through six years of age. Emphasis is placed on social, emotional, physical, and cognitive development in addition to support services relating to children. Upon completion of the program, students have opportunities for employment in child care centers and state institutions as paraprofessionals or home day care providers. Students gain experience working in the licensed child care center on campus. This is a one-year program for high school and post-secondary students and enrolls in August only.

## **Culinary Arts - 9174**

48-credit certificate 67-credit AAS Degree

The Culinary Arts program offers a 48 credit technical certificate that prepares students to work under the supervision of chefs and other culinary professionals. Instruction includes culinary math, food safety and sanitation, use and care of equipment, as well as food preparation and cooking skills. Students will develop other essential skills including baking, purchasing, menu planning along with an introduction to restaurant supervision and management and the exploration of international cuisines. Upon graduation students will have the skills and confidence to be a productive member of any restaurant team.

## **Legal Office Professional - 9122**

48-credit certificate 64-credit AAS Degree

The Legal Office Professional program prepares students for entrance into a support staff position in the field of law. Instruction includes legal office projects, legal terminology and transcription, legal research, professional standards, ethics, and extensive training in computer software. Written and oral communication skills, including grammar, are emphasized as well as workplace skills. A minimum of 25 words per minute keyboarding is required. Attorneys and judges demand accuracy and excellence; therefore, students must have excellent attendance, work diligently on assignments, learn and perform problem solving skills, and meet deadlines.

## **Medical Office Specialist - 9124**

48-credit certificate 64-credit AAS degree

The Medical Office Specialist program is designed to provide students with marketable skills for entry-level medical office positions and enhances their ability to move into advanced positions. This includes extensive training in medical terminology and computer software. Software used includes Microsoft Office (Word, Excel, and Access), QuickBooks, and medical scheduling and billing software. Medical terminology, transcription, and research skills are emphasized as well as hands-on practice in operating software and keying documents. A minimum of 25 words per minute keyboarding is required.

## **TECHNOLOGY**

### **Advanced Systems Technology**

48-credit certificate 64-credit AAS Degree

Advanced Systems Technology prepares individuals to apply technical knowledge and skills to troubleshoot, repair and maintain industrial machinery and equipment to keep production lines and distribution systems in working order. Instruction includes electrical theory, wiring, motor controls, 3-Phase/Single Phase AC/DC motors, blueprint reading, programmable logic controllers (PLCs), hydraulics and pneumatics, and mechanical systems. The program includes introductory courses in welding, machine tool and robotics. Graduates work in a wide range of settings in every type of industry. Required additional courses include applied physics and technical mathematics. Courses are also offered at nontraditional times using a hybrid format.

### **Computer Repair and Networking - 9142**

48-credit certificate 67-credit AAS Degree

The Computer Repair and Networking program prepares students with the skills necessary to become computer service professionals and network technicians. Students graduating from the program have the skills necessary to work at a company's help desk or set up and maintain the PC's, servers, switches, and routers at a small to medium-sized company and its offices.

While at Washburn Tech, students will have the opportunity to setup and maintain multiple desktop and network operating systems and the networking devices (routers, switches, and Wide Area Network connections) to share the data and resources on the network. The program prepares students to take the Comptia A+ Certification Exams and Cisco Certified Network Associate (CCNA) exams.

## **Graphics Technology - 9152**

48-credit certificate 67 -credit AAS Degree

The Graphics Technology program is designed to introduce students to the graphics industry. Students will learn the basics of graphic design software (CS4 Adobe InDesign, Adobe Illustrator & Adobe Photoshop) through lecture, hands-on activities, projects and internship opportunities. Additional focus on digital photography and a secondary focus on printing will also be included. The students will learn how graphics, photography and print work together to provide the products that are required for entry level employment in the graphics industry.

## **Machine Tool Technology – 9192**

48-credit certificate 67 -credit AAS Degree

Machine Tool Technology prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, and machines. Instruction includes technical information in blueprint reading, sketching, angles, tapers, gearing, and precision measuring; it also includes hands-on training in the operation of machine tools--engine lathe, milling machine, surface grinder, drill press, computerized numerical control milling machines, and computerized numerical control lathe.

## **Technical Drafting - 9136**

48-credit certificate 67-credit AAS degree

The Technical Drafting program provides experience in the proper use of drafting tools and equipment, preparing drawings and reproductions, and developing skills, knowledge, and techniques for use in a variety of areas in the drafting field. Students will learn the fundamentals of computer-aided drafting (CAD), emphasizing the use of computer hardware and software in processing and retrieving drawings and data files. Related theory and technical instruction include the study of applied algebra, geometry, and trigonometry, as well as scientific and physical principles of numerous construction and manufacturing materials and techniques.

## **Welding Technology - 9194**

48-credit certificate 67-credit AAS degree

The Welding Technology program prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. The program prepares students for the American Welding Society Qualification and Certification (AWS QC4) tests that are offered at Washburn Tech. Formal and self-paced instruction includes: Shielded Metal Arc Welding (SMAW); Gas Metal Arc Welding (GMAW); Flux Cored Arc Welding (FCAW); Gas Tungsten Arc Welding (GTAW); and cutting processes. Related technical instruction also includes quality assurance and control, print reading, safety, and workplace skills.

## **TRANSPORTATION**

### **Auto Collision - 9184**

50-credit certificate 69 credit AAS Degree

Auto Collision is a hands-on program that prepares individuals to apply Auto Collision technical knowledge and skills to repair and refinish all types of vehicles. Each damaged vehicle presents a different challenge. The mission of Washburn Tech's program is to conduct an academic, hands-on training program that includes Inter-Industry Conference on Auto Collision Repair (I-CAR) Enhanced Delivery Curriculum. National Automobile Technician Education Foundation (NATEF) standards are utilized to meet industry requirements which will provide highly qualified employees for entry level positions in auto collision repair. Students have the opportunity to develop a close working relationship with the collision repair industry through the advisory council and keep abreast of the needs of future employers.

### **Auto Service Technician - 9182**

50-credit certificate 69-credit AAS degree

The Auto Service Technician program prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Instruction includes basic theory and familiarization with automotive components, engine repair and performance, steering and suspension, automatic and manual transmission and transaxle, brakes, electricity/electronics, and heating and air conditioning systems. Hands-on activities are included in all courses. The program is NATEF certified in all eight areas. Students will also have the opportunity to take several ASE certification exams. Students in Heating-Air Conditioning II will be prepared to take the Section 609 Refrigeration Recycling and Recovery Certification exam.

### **Heavy Diesel Construction Technology - 9186**

45-50-credit certificate – 67-68-credit AAS

The Heavy Construction Diesel Technology program prepares individuals to apply technical knowledge and skills in the field maintenance and repair of heavy construction equipment, and in the general maintenance and overhaul of such equipment, along with the academic skills to be a valuable employee. Instruction includes foundational courses in theory and hands-on skills practice in safety standards, powertrains, diesel engines and welding. Specialized courses for diesel construction include instruction in inspection, maintenance, and repair of tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, engines and techniques of welding and brazing. Machines and equipment in the lab include CASE Construction wheel loader, loader backhoe and various skid steers. Tier 4 and 3 Fiat engines plus engine cut-aways are provided for skills practice with tear-down, operations and diagnostics. Students are given the option to serve an internship with area dealers and may qualify for company sponsorship for their second term.