

Automotive Technology (Toyota T-TEN and AAS General Options)

67-credit Associate of Applied Science Degree

About the Program

Learn on the latest automotive vehicles, components and educational materials available. In the classroom, labs and worksite, training will cover the latest developments of automotive technology including engines, fuel management, electronics, transmissions/transaxles, brakes, air conditioning and hybrids.

Toyota T-TEN Option: WCTC and Toyota Motor Sales USA are pleased to offer an Associate Degree in Automotive Technology leading to Toyota T-TEN certification. The Toyota Technical Education Network (T-TEN) was developed to fill the growing need for highly professional, technically competent technicians for Toyota/Lexus dealerships. The program combines the learning resources at WCTC with “real world” job experience at Toyota/Lexus dealerships. Gain the technical competency and professional ability to become a highly qualified service technician in a rewarding and growth-oriented career. A minimum of 144 hours of worksite experience must be completed and two ASE certification tests passed to be considered a Toyota T-TEN graduate. Students must have a sponsoring dealership while in the Toyota T-TEN program. WCTC will help identify interested dealerships for students but will not assign a specific dealership.

AAS General Option: Limited space is reserved in the program for non-manufacturer-specific students desiring an associate degree. General automotive students receive the same quality of training but will have the choice of any dealership or independent repair shop to gain industry experience through internship.

Potential Job Titles:

- Automotive Technician
- Auto Mechanic
- Service Technician

Credit Transfer

Credits earned in the Automotive Technology program may be transferable to institutions offering baccalaureate degrees. Visit www.wctc.edu/transfer for specific information. Since the details of credit transfers change from time to time, be sure to contact the intended college or university to verify credit transferability.

Required Courses		Credits
First Semester		
602-100	Automotive Fundamentals	2
602-110	Electrical Systems & Power Accessories	4
602-121	Engine Fundamentals	2
602-190	Co-op Dealership Experience I	1
801-195	Written Communication	3+
804-115	College Technical Math 1	5+
Total semester credits		17
Second Semester		
602-143	Fuel Management I	4
602-170	Automotive Brakes	3
602-180	Electronic Accessories	2
602-191	Co-op Dealership Experience II	1
806-139	Survey of Physics	3
809-199	Psychology of Human Relations	3
Total semester credits		16
Third Semester		
602-130	Alignment/Suspension/Steering	3
602-144	Fuel Management II	2
602-145	Fuel Management III	2
602-150	Automotive Temperature Control	2
602-181	Hybrid Systems	1
602-192	Co-op Dealership Experience III	1
801-196	Oral/Interpersonal Communication	3+
801-197	Technical Reporting	3
Total semester credits		17
Fourth Semester		
602-120	Engine Concepts	4
602-148	Automotive Computer Appl	3
602-162	Manual Transmissions/Drivetrains	3
602-163	Auto Transmissions/Drivetrains	3
602-193	Co-op Dealership Experience IV	1
809-195	Economics	3+
Total semester credits		17
+ Proficiency exam available		
<i>Curriculum is current as of catalog printing. The most current curriculum requirements for graduation will be provided upon admission to program, or review at www.wctc.edu.</i>		

Admission Process

- Fill out a WCTC application
- Send \$30 non-refundable application fee
- Send high school transcript or GED/HSED
- Send any previous college transcripts
- Complete Skills Assessment test (COMPASS)
- Begin pursuing Financial Aid/Scholarship options
- Requires service center sponsorship prior to admissions

- Select high school courses may qualify the student for advance standing in this program
- Students are responsible to purchase and have available their own tools, toolboxes, safety glasses and safety shoes

For more information, call 262.691.5200.

Automotive Technology (Toyota T-TEN and AAS General Options) Required Courses

602-100 Automotive Fundamentals 2
Build a foundation for subsequent automotive courses, and develop the basic concepts needed for the program.

602-110 Electrical Systems & Acc 4
Become familiar with the fundamental theories of electricity and electronics and apply these fundamentals in the operation of the various automotive systems. Study meter usage and sound diagnostic procedures.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent) or 602-121 Engine Fundamentals (or concurrent)

602-120 Engine Concepts 4
Explore the operating principles and construction of the automotive internal combustion engine, focusing on cylinder head repair, valve timing, and proper assembly techniques. Learn engine removal and replacement techniques.
Prerequisites: 602-100 Automotive Fundamentals

602-121 Engine Fundamentals 2
Gain a general overview of automotive engines and operating characteristics. Emphasis will include four stroke theory, valve train components, and engine blocks and related components. Engine support systems such as lubrication systems, cooling system, ignition system, fuel and exhaust systems will also be covered. Focus on engine theory and operation, disassembly and assembly, problem diagnosis and component testing for domestic as well as import vehicles.

602-130 Alignment/Suspension/Steering 3
Participate in the inspection, diagnosis and repair of automotive steering and suspension systems. Demonstrate wheel alignment procedures and related steering and suspension system service. Hands-on experience will be gained in power and manual steering gears and comprehensive training in wheel mounting and balancing.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent) or 405-100 Auto Collision Fundamentals (or concurrent)

602-143 Fuel Management I 4
Study the basic principles of carburetion, ignition, and emission control systems (basic computer command control). Microprocessor control systems will be emphasized in this study of fuel emission control systems.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent) or 602-121 Engine Fundamentals (or concurrent) and 602-110 Electrical Systems & Acc (or concurrent) and 602-180 Electronic Accessories (or concurrent)

602-144 Fuel Management II 2
Enhance understanding of solid-state electronics as they apply to engine electrical systems. Explore the operation of electronic fuel injection systems.
Prerequisites: 602-143 Fuel Management I

602-145 Fuel Management III 2
Examine the function, diagnosis, and service of past fuel injections systems (gas and diesel). Complete a study of injectors, fuel distribution, and fuel injection pumps.
Prerequisites: 602-144 Fuel Management II (or concurrent)

602-148 Automotive Computer Appl 3
Gain an understanding of computer concepts and the components of ASE testing and manufacturer certification. Participate in CD Rom training for their individual certification standards.
Prerequisites: 602-190 Co-Op Dealership Experience I (or concurrent)

602-150 Automotive Temperature Control 2
Study the theory, operation, maintenance, and repair of all late model air conditioning systems, including intricately designed systems that are controlled by the computer.
Prerequisites: 602-110 Electrical Systems & Acc (or concurrent) or 404-332 Automotive Electrical Systems (or concurrent) or 405-135 Collision Repair Electronics (or concurrent)

602-162 Manual Transmissions & Drives 3
Obtain the skills required to diagnose, service and repair automotive manual drive-trains. This includes clutch diagnosis and repair, transmission/transaxle diagnosis, service and repair and driveshaft, drive axle and differential operation and repair. Personal safety will be stressed as well as working with hazardous materials.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent)

602-163 Auto Transmissions & Drives 3
Diagnose, service and repair automotive automatic transmissions and transaxles. This includes hydraulic fundamentals, torque converter operation and service, basic computer and electronic control systems, inspection, testing and diagnosis and transmission disassembly, service and repair. Personal safety will be stressed as well as working with hazardous materials.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent)

602-170 Automotive Brakes 3
Service drum and disc brake systems and be introduced to power brakes, both vacuum and hydra-boost types. In addition, use scan tools as a diagnostic technique for anti-lock brake system problems and other brake-related issues
Prerequisites: 602-100 Automotive Fundamentals (or concurrent) or 405-100 Auto Collision Fundamentals (or concurrent)

602-180 Electronic Accessories 2
Examine the electronic accessories, such as electronic instrumentation and cruise control, found on today's automobile.
Prerequisites: 602-110 Electrical Systems & Acc (or concurrent)

602-181 Hybrid System/Toyota 1
Examine the primary operation systems and components of Toyota hybrid vehicles. System integration, operation, diagnosis, safety considerations and maintenance is emphasized. Continued training for Toyota technicians.

602-190 Co-Op Dealership Experience I 1
Take part in a period of involved employment, guided by an organized student learning plan, in the automotive field.
Prerequisites: 602-100 Automotive Fundamentals (or concurrent) or 602-121 Engine Fundamentals (or concurrent)

602-191 Co-Op Dealership Experience II 1
Take part in a period of involved employment, guided by an organized student learning plan, in the automotive field.
Prerequisites: 602-190 Co-Op Dealership Experience I

602-192 Co-Op Dealer Exp III 1
Take part in a period of involved employment, guided by an organized student learning plan, in the automotive field.
Prerequisites: 602-191 Co-Op Dealership Experience II

602-193 Co-Op Dealership Experience IV 1
Take part in a period of involved employment, carried out through an organized student learning plan, in the automotive field.

801-195 Written Communication 3
Study and practice the transfer of information, ideas, and experiences in written form through reports, letters, memoranda, and other documents. Gain proficiency in the areas of organization, clarity, accuracy, and directness.
Prerequisites: COMPASS-Writing Skills or ACT-English or ASSET-Writing Skills or Accuplacer Sentence Skills or TABE Advanced Language or 831-103 Intro to College Writing or 851-771 Writing-Program Readiness

801-196 Oral/Interpersonal Comm 3
Practice the necessary skills for effective speech delivery, listening, assertiveness, conflict resolution, teamwork, and general interpersonal communication.

801-197 Technical Reporting 3
Prepare and present oral and written technical reports. Analyze the problems particular to technical writing, and study the methods used in assembling, developing, and preparing information for technical publications. Discuss the competencies required of the qualified technical communicator.
Prerequisites: 801-195 Written Communication

804-115 College Technical Math 1 5
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B.

806-139 Survey of Physics 3
Emphasis is on understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.
Prerequisites: 804-115 College Technical Math 1 or 804-151 Technical Math 1 or 804-170 Math for Electronics or 804-110 Elem Algebra w Apps (or concurrent) or 804-106 Intro to College Math (or concurrent)

809-195 Economics 3
Discuss the major institutions and principles that underlie the contemporary American economic system, and consider topics such as the free enterprise system, supply and demand, circular flow, government involvement, the Federal Reserve System, economic growth and development, the effects of international trade, comparative economic systems, and global economics.
Prerequisites: COMPASS-Reading Skills or 858-775 Reading - Program Readiness or 838-105 Intro Reading & Study Skills or TABE Advanced Reading or Accuplacer Reading Comprehensi or College Proficiency - Reading or Grandfathered Rdg Requirement or ACT-Reading

809-199 Psychology of Human Relations 3
Examine the principles of interaction as applied to human relations at home and on the job. Explore topics such, as self concept personality development, learning, motivation, emotions, stress, human relations processes, and special relationships.
Prerequisites: COMPASS-Reading Skills or 858-775 Reading - Program Readiness or 838-105 Intro Reading & Study Skills or TABE Advanced Reading or Accuplacer Reading Comprehensi or College Proficiency - Reading or Grandfathered Rdg Requirement or ACT-Reading