



Course Syllabus 2024-2025

Program Title

Automotive Career Skills

Instructor

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Course Description

The goal of this program is to provide you with the skills needed to gain competitive long-term employment in the automotive industry or related fields. In this program you will learn a wide variety of essential entry-level, industry relevant, automotive technician skills. You will participate in career exploration and investigation and research activities in order to fully understand all aspects of this multibillion-dollar industry. You will develop a portfolio of program related activities; develop confidence in your ability to be successful in the world-of-work and to live independently.

Course Goals

Enter the exciting world of auto maintenance and detailing.

- Master the Computerized parts program
- Develop your mechanical aptitude
- Develop your manual dexterity
- Enhance your organizational skills
- Sharpen your problem solving skills
- Learn to attune to detail
- Refine your soft skills

Upon completion of this program students will be able to:

- Demonstrate knowledge of the profession and safety practices
- Demonstrate knowledge of cleaning and car care products and supplies
- Demonstrate use of hand tools and standard shop equipment
- Perform full vehicle fluid and filter service per manufacturer recommendations
- Complete cosmetic services such as exterior and interior detailing
- Demonstrate effective customer communications
- Process customer service tickets
- Develop technical literacy skills using paper hard copy and online reference

Textbook & Classroom Resources

Chris Johanson. *Auto Fundamentals 13th Edition*. Good-heart Willcox Company, INC. 2024. Print

This text provides an in depth view of the basics of the automobile systems. It covers everything from shop safety, tools, engine design to the more modern computer systems and fuel injection. It is written in such a way that it can be easily understood by those interested in vehicles.

Skills Needed

To be successful in this program, you should have the following skills:

- Mechanical aptitude
- Good problem solving skills
- Detail oriented
- Manual dexterity
- Self regulation and situational awareness
- Ability to follow verbal instructions and written procedures
- Basic reading, communications, writing, math, study skills, money management, auto upkeep, and general light maintenance
- Team player attitude, sense of personal responsibility, and good communication skills

Course Outline

Personal Protection Equipment

Sensory Gear Usage
Handling and Storage
Shop Safety
Emergency procedures

Safety Data Sheets

Verify SDS present for all existing inventory
Obtain SDS on all new acquisitions
Proper Storage and Handling

Lifting Techniques

2 Post Rotary Lift
4 Post Bend Pak
Floor Jacks and Jack Stands

Detailing

Exterior Wash and Wax
Interior Detailing
Product Comparisons

Window tint/vinyl

How to apply
Types of products

Tools and Equipment

Form and Function
Proper Usage

Inspection Procedures

Vehicle Walk Around
Occupant Controls
Interior and Exterior Lighting
Engine Compartment
Wheel Ends
Undercarriage

Tires

Form and Function
Pressure Check
Plug and Patch Repair
Reading Sidewalls
Interpreting Tread Wear Patterns
Mount and Dismount technique
Rotate and Balance
Wheel Torque

Filter and Fluid Service

Engine Oil and Filter
Transmission Filter and Fluid

Filter and Fluid Service

Gearboxes, Differentials, and Transfer Cases
Hydraulic Brake Fluid Bleeding and Power Steering Fluid Exchange
Coolant Exchange
Air Filters – engine and cabin

Brakes

How disc brakes work
 How drum brakes work
 Bending new lines and flaring

Miscellaneous

Spark plug replacement
 Engine tune-ups (plug wires, cap, rotor)

Customer Service

Understanding Customer Concerns
 Estimating and Invoicing
 Parts Acquisition and Quotes
 Print and Online Reference
 Record Keeping

Soft Skills

Active Listening
 Phone etiquette
 Courtesy
 Positive Attitude
 Participation
 Enthusiasm
 Writing Skills
 Organization

Employability

Initiative
 Technical Literacy
 Communication Skills
 Self Regulation
 Consistency

Engines

Small Engine theory and repair

Evaluation of Learning

Student performance will be evaluated using multiple assessments involving assigned program activities. Student's course grades will be based on the following:

Evaluation Criteria	Method of Evaluation	Percentages
Employability Skills	<ul style="list-style-type: none"> ● Attendance ● Attitude ● Participation ● Professionalism ● Commitment to Success 	25%
Documentation	<ul style="list-style-type: none"> ● Daily Bell Ringers ● Weekly Timesheets ● Inspections and Invoices ● Textual Topics ● Unit of Study Packets 	25%
Shop Competencies	<ul style="list-style-type: none"> ● Performance Tasks ● Equipment Handling ● Safety Practices ● Organization Skills ● Quality of Effort 	25%
Soft Skills	<ul style="list-style-type: none"> ● Written communications ● Verbal Communications ● Personal Accountability ● Professional Composure ● Individual Integrity 	25%

Grading Scale

Grade	Percentage
A+	100% – 98%
A	97% – 92%
A-	91% – 90%
B+	89% – 88%
B	87% – 82%
B-	81% – 80%

Grade	Percentage
C+	79% – 78%
C	77% – 72%
C-	71% – 70%
D+	69% – 68%
D	67% - 62%
D -	61% - 60%
F	59% - Below

Career Information

MN Program of Study	
Career Field	Engineering, Manufacturing, and Technology
Career Cluster	Transportation, Distribution, and Logistics
Career Pathway	Facility and Mobile Equipment Maintenance
Occupations Requiring Less than Baccalaureate Degree <ul style="list-style-type: none"> ● Auto Mechanic ● Bus Mechanic ● Truck Mechanic ● Body Shop Worker ● Detailer ● Parts Counter Worker ● Automotive Tint ● Vinyl Wrap installer ● Auto restoration/ street rod building 	Occupations Requiring Baccalaureate Degree <ul style="list-style-type: none"> ● CTE Instructor
Career Outlook	information available @ www.iseek.org/careers