



## Auto Collision

**Organization** Washburn Institute of Technology  
**Program Number** 47.0603

**Instructional Level** Certificate

### Target Population

Grades 11 & 12  
Post-secondary

### Description

The Collision Repair Program uses state-of-the-art I-CAR (Inter-Industry Conference on Auto Collision Repair) Enhanced Delivery Curriculum to meet the industry standards. Approximately 50 percent of the program will be made up of in-class instruction and 50 percent will be hands-on lab activities. Students will learn how to use modern hand and power tool equipment, computer-estimating software, and the handling of typical collision repair tasks. The learning environment will be instructor-led and will consist of PowerPoint presentations, lecture, textbooks, video, and lab hands-on tasks. Each student will be required to keep a notebook(s) that contains course information, materials for workplace skills, and reference material. Students are expected to be prepared at the start of class for classroom and/or lab. The Collision Repair Program's mission is to offer students a foundation of knowledge and skill for an entry level position in the auto collision repair industry. This industry requires continuous learning, even after completing the program, because the trade is constantly moving forward and incorporating new technologies.

### Entry Requirements

WorkKeys® Applied Math Level 4 WorkKeys®  
Reading for Information Level 4

### Assessment Plan

Assessment is an integral part of the educational process at Washburn Tech and accurate feedback is an important tool in continuously improving the institution's technical programs. Students can expect to participate in assessment activities prior to entry into programs, within specific courses and following program completion for specific fields of study.

### Student Learning Outcomes

- A. Communicate effectively.
- B. Integrate technology.
- C. Learn effectively - use academics effectively.
- D. Demonstrate cooperative/teamwork skills.
- E. Apply safety.
- F. Think critically and creatively.
- G. Demonstrate responsible work ethics.

## Program Outcomes

- A. Analyze automotive structural damage and repair requirements.
- B. Analyze automotive non-structural damage and repair requirements.
- C. Diagnose and repair collision damaged mechanical and electrical components.
- D. Demonstrate automobile painting and refinishing skills.
- E. Demonstrate safe working habits and procedures within an auto collision/repair facility.

Course #	Course Title	Credit Hours	Required
CLR100	Orientation/Safety	1	Yes
CLR112	Estimate/Damage 1	1	Yes
CLR121	Non-Structural A & D Repair 1	4	Yes
CLR126	Non-Structural A & D Repair 2	4	Yes
CLR131	Structural A & D Repair 1	2	Yes
CLR132	Structural A & D Repair 2	2	Yes
CLR141	Paint & Refinishing 1	3	Yes
CLR142	Paint & Refinishing 2	3	Yes
CLR151	Mechanical & Electrical	3	Yes
CLR162	Workplace Skills 1	1	Yes
CLR202	Estimate/Damage 2	2	Yes
CLR221	Non-Structural A & D Repair 3	4	Yes
CLR226	Non-Structural A & D Repair 4	5	Yes
CLR236	Structural A & D Repair 3	3	Yes
CLR238	Structural A & D Repair 4	3	Yes
CLR246	Paint & Refinishing 3	3	Yes
CLR248	Paint & Refinishing 4	4	Yes
CLR253	Mechanical/Electrical 2	3	Yes

## Program Course Descriptions

### CLR100 Orientation/Safety (1 credit)

The course introduces the student to basic and industry specific safety skills that is an ongoing education. Topics include: Personal Protective Equipment (PPE), first aid, dress code, safety implications, Material Safety Data Sheets (SDS), procedures of handling dangerous materials, Pollution Prevention and Environmental Safety (SP2), shop safety, introduction to tools/equipment, and safety of tools/equipment. When other tools/equipment is introduced, additional safety procedures will be covered in the course. No student will be allowed to operate or be in the area of operating machines until the student has successfully completed (100%) the initial safety test. Students are expected to observe and comply with all safety rules and regulations.

### **CLR112 Estimate/Damage 1 (1 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will explore the components of analyzing damage pertaining to auto collision and repair; demonstrate basic estimating to identify structural repairs required, part design, construction materials, and manufacturing processes.

### **CLR121 Non-Structural A & D Repair 1 (4 credits)**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will explore the components of safety pertaining to auto collision and repair, explore the parts and construction of vehicles, explore opportunities in the auto collision industry, identify metal straightening techniques, identify the application and use of body fillers, demonstrate proper use, set-up and storage of welding equipment, distinguish between weldable and non-weldable materials, demonstrate fundamental industry standard recommended welds, identify plastics and adhesives used in automotive industry, explain the general purpose of damage, estimation and repair orders; explore the processes required for outer body panel repairs, replacements and adjustments, and demonstrate fundamental cutting procedures.

### **CLR126 Non-Structural A & D Repair 2 (4 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify trim and hardware to be protected, examine what to consider when working with movable glass, perform outer body panel repairs, perform outer body replacements and adjustments; perform metal straightening techniques, perform body filling techniques, perform metal finishing techniques, use welding procedures in non-structural damage repair, distinguish between mechanical and electrical components, apply safety standards for the collision repair industry, use cutting procedures in non-structural damage repair, and determine procedures necessary for working with plastics and adhesives.

### **CLR131 Structural A & D Repair 1 (2 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify measuring procedures, analyze the basic structural damage conditions, identify the safety requirements pertaining to structural damage repair, analyze frame repair methods, analyze unibody inspection and measurement, and identify procedures of welding for structural repair.

### **CLR132 Structural A & D Repair 2 (2 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, analyze frame inspection and repair procedures, determine direct and indirect damage for structural repair, analyze unibody inspection, measurement, and repair procedures, perform welding techniques for structural repair, and identify cutting procedures for structural repair.

### **CLR141 Paint & Refinishing 1 (3 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses, and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.

### **CLR142 Paint & Refinishing 2 (3 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will select proper personal protective equipment, perform proper shop operations according to OSHA guidelines, remove paint coatings, apply corrosion resistant coatings, demonstrate proper spray gun operation and cleaning procedures, select proper painting and substrate materials for projects, analyze paint defects, causes and cures, repair paint defects, measure paint mil thickness, and determine final detail procedures for given projects.

### **CLR151 Mechanical & Electrical (3 credits)**

Through classroom and/or lab/shop learning and assessment activities, students will determine how to diagnose steering and suspension, diagnose electrical concerns, complete head lamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection, and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service, and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection, and service requirements of active and passive restraint systems.

### **CLR162 Workplace Skills 1 (1 credit)**

This course utilizes Key Train Software to assist in advancement of knowledge in Applied Math, Reading for Information, and Locating Information WorkKeys assessments that are required prior to exiting the program. Students will also be required to attend seminars provided through the Career Resource Center. Seminar topics include interview techniques, developing and preparing a resume, completing job applications, ethics, and teamwork.

### **CLR202 Estimate/Damage 2 (2 credit)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will expand their knowledge and performance to explore the advanced components of analyzing damage pertaining to auto collision and repair, demonstrate a complete estimate to identify structural repairs required, part design, construction materials, and manufacturing processes. Pre-requisite:

CLR111

### **CLR221 Non-Structural A & D Repair 3 (4 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will remove and install trim and hardware, determine process and procedures necessary for movable glass repair, repair outer body panel, replace and adjust outer body panels, remove and install mechanical and electrical components, demonstrate safety protocol appropriate for the auto repair setting, perform intermediate welding skills on non-structural damage repairs, and perform plastic and adhesive repairs.

### **CLR226 Non-Structural A & D Repair 4 (5 credits)**

Through a variety of classroom and lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.

### **CLR236 Structural A & D Repair 3 (3 credits)**

Through a variety of classroom and/or shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform welding and cutting techniques for structural repair; diagnose unibody direct and indirect damage, apply unibody inspection and

measurement procedures, apply unibody repair procedures, apply frame inspection and measurement procedures, apply frame repair procedures, and remove fixed glass.

### **CLR238 Structural A & D Repair 4 (3 credits)**

Through a variety of classroom and lab/shop learning and assessment activities, students in this course will apply safety requirements pertaining to structural damage repair, perform advanced welding and cutting techniques for structural repair, perform inspection and measurement of unibody for structural repair, repair unibody direct and indirect damage, perform frame inspection and measurement procedures, repair frame to industry standards, and remove and install fixed glass.

### **CLR246 Paint & Refinishing 3 (3 credits)**

Through a variety of learning and/or lab/shop learning and assessment activities, students in this course will identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law, determine the different types of substrates and sanding materials relevant to auto body surface preparation, identify the process to clean and prepare a substrate for paint, distinguish between the properties, uses and manufacturer specifications of metal treatments and primers, distinguish among the various types of spray guns and equipment, explore various paint codes and specifications for use, identify the various paint systems, explore the types of paint defects, distinguish between damage and non-damage related corrosion, and identify final detail procedures.

### **CLR248 Paint & refinishing 4 (4 credits)**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will apply exemplary safety procedures in all areas of auto body painting and refinishing, perform proper cleaning procedures for a refinish, prepare adjacent panels for blending, prepare plastic panels for refinishing, protect all non-finished areas of vehicle, operate high and low volume/pressure spray gun operations for painting and refinishing, perform all paint system applications on an automobile, apply appropriate paint color matching and mixing procedures, tint color using formula to achieve a blendable match, explore the causes, effects and correction of buffing related imperfections, explore the causes, effects and correction of pigment flotation, measure mil thickness, apply decals, transfers, tape, wood grain, and pinstripe to an automobile, apply buffing and polishing techniques to remove defects, apply cleaning techniques to automobile interior, exterior, glass and body openings, and remove over spray.

### **CLR253 Mechanical/Electrical 2 (3 credit)**

Through classroom and/or lab/shop learning and assessment activities, students will advance knowledge and skills to determine how to diagnose steering and suspension, diagnose electrical concerns, complete head lamp and fog/driving lamp assemblies and repairs, demonstrate self-grounding procedures for handling electronic components, determine diagnosis, inspection and service needs for brake system hydraulic components, examine components of heating and air conditioning systems, determine the inspection, service and repair needs for collision damaged cooling system components, distinguish between the under car components and systems, and determine the diagnosis, inspection and service requirements of active and passive restraint systems. Pre-requisite: CLR151t/

### **CLR270 Collision Repair OJT (Optional) (3 credits)**

On-the-Job Training (OJT) is an elective course for a student to work at a job site to apply skills and knowledge acquired in the program. A student is eligible for OJT only upon 100% completion of the program competencies, 90% attendance throughout the program, all school invoices paid, completion of the institution exit assessment, and agreement completed with an employer. If a student does not comply with the attendance and job performance expectations of the employer, the student will be required to return to the program. This is a pass/fail course.

Please note all course are gate keeper courses with the exception of Workplace Skills (CLR 162). Example in order to take Paint and Refinishing 2 (CLR 142) you must pass Paint and Refinishing 1 (CLR 141) with 76% or higher. Failure to pass a required class will result in not receiving a certificate.

### **Conceal and Carry Policy:**

Washburn University has regulations and procedures in place to address concealed carry of weapons on campus. Those regulations and procedures can be located at <http://www.washburn.edu/concealedcarry>.

In this class, there will be times when you will be in the shop and be separated from your handbag/purse/backpack. There are also situations in the shop were carrying a weapon could be difficult/dangerous/easily revealed at which point you would be breaking policy. If you intend to carry a concealed weapon in your handbag/purse/backpack, on those days where you will be separated from your handbag/purse/backpack, it is your responsibility to make other arrangements for your weapon so that you remain compliant with the policy- note the lockers on campus are not an approved storage devices.

**OSHA 10:** All Students will be enrolled in OSHA 10 as a class requirement and expected to pass at 70% or higher and will receive their OSHA 10 card.

### **ADA Notification Statement and Disability Services:**

The Testing/ADA Coordinator office is responsible for assisting in arranging accommodations and for identifying resources at Washburn Tech for persons with disabilities. Qualified students with disabilities MUST register and provide documentation with the office to be eligible for services. New requests for accommodations should be submitted two months or more prior to the date services should begin by contacting the Testing/ADA Coordinator's office as soon as a need may arise. Depending on the accommodation request, four to eight weeks lead time may be needed for timely and effective provision of services. Testing/ADA Coordinator coordinates and assists in arranging services it deems appropriate for eligible students on a case-by-case basis.

If you are a student with a disability that may substantially limit your ability to participate in this class and believe you will need accommodations, it is your responsibility to contact:

Testing/ADA Coordinator

Phone: 785-670-3365

E-Mail: [ssscoordinator@washburn.edu](mailto:ssscoordinator@washburn.edu)

It is the policy of Washburn Institute of Technology to assure equal employment and educational opportunity to qualified individuals without regard to race, color, sex, age, ancestry, marital or parental status, disability, religion, national origin, or sexual orientation/gender identity. Contact Pam Foster, Morgan Hall, Room Washburn University (785-670-1509), and [pam.fosterel@washburn.edu](mailto:pam.fosterel@washburn.edu).

