

AUTOMOTIVE COLLISION REPAIR

DIPLOMA PROGRAM

The Automotive Collision Repair diploma program prepares students for careers in the automotive collision repair industry. Topics covered in the program include mechanical and electrical automotive systems; body fiberglass repair; plastic and rubber repair techniques; welding and cutting; trim, accessories, and glass; damage identification and assessment; frame and unibody measuring and straightening techniques; and painting and refinishing. Students specialize in either collision repair or paint and refinishing. Program graduates receive a diploma.

ASSOCIATE DEGREE OPTION

Individuals who are graduates of, or eligible to graduate from, this diploma program and who meet general admission requirements for associate-degree level work may pursue an associate of applied science degree in Technical Studies by completing an additional 50 quarter credit hours of coursework. Interested students should see their advisors to obtain assistance in completing processes associated with readmission and/or change of major.

CAREER OPPORTUNITIES

Auto body technicians repair or replace the damaged parts of automobile and truck bodies and frames. They repair damages in body panels, weld torn metal, replace body parts, and straighten damaged frames. Automobile painters sand and mask the vehicle, mix and match the paint, and paint the repaired area. Some technicians specialize in body work, painting, or framework. Technicians also do appraisals.

Program graduates may be self-employed or obtain employment in automotive dealerships, privately owned shops, frame shops, customizing shops, and other related areas. Related positions include auto body customizers, transportation equipment painters, insurance appraisers, instructors, equipment sales and demonstrators, government inspectors of repaired vehicles, rebuilders, and dismantlers.

PROGRAM EXPENSES

The recent reauthorization of the Higher Education Act requires all colleges and universities to notify students and prospective students of all program costs for which they will be responsible. Students will be responsible for the following expenses:

- Quarterly tuition (\$45 per credit hour)
- Quarterly student activity fees (\$16)
- Quarterly registration fee (\$26)
- Quarterly accident insurance fee (\$4)
- Quarterly instructional and technology supply fee (\$35)
- Program supply fee (Varies – see course descriptions for exact costs)
- Textbooks (Approximately \$650 for diploma program and \$228 for the Automotive Collision Major Repair Assistant, Auto Body Minor Repair Assistant, and Automotive Repainting and Refinishing Specialist technical certificates)
- Tools (Approximately \$1,200 for diploma program, \$800 for Automotive Collision Major Repair Assistant and Auto Body Minor Repair Assistant technical certificates, and \$500 for Automotive Repainting and Refinishing Specialist technical certificate)

The expenses are based on costs in effect at the time this catalog was published. Prices are subject to change.

ADMISSION REQUIREMENTS

Applicants must submit the following information to the Admissions Office:

- a. Completed and signed application for admission and a \$20 nonrefundable application fee;
- b. Valid COMPASS, ASSET, SAT, or ACT test scores (see *ASSET and COMPASS Placement Tests*); and
- c. High school diploma or GED not required for admission, but must be obtained within two quarters or the completion of 25 quarter credit hours of coursework, whichever comes later (see *General Admission Requirements*).

AUTOMOTIVE COLLISION REPAIR CURRICULUM OUTLINE

Diploma Program (Major Code: AU02)

Credit Required for Graduation: 67 quarter credit hours

General Core

			Credits
EMP	1000	Interpersonal Relations and Professional Development	3
ENG	1010	Fundamentals of English I	5
MAT	1012	Foundations of Mathematics	5

Technical Core			24
ACR	100	Safety	1
ACR	101	Automotive Components Identification	3
ACR	102	Equipment and Hand Tools Identification	1
ACR	104	Mechanical and Electrical Systems	2
ACR	105	Body Fiberglass, Plastic, and Rubber Repair Techniques	3
ACR	106	Welding and Cutting	4
ACR	107	Trim, Accessories, and Glass	2
ACR	109	Damage Identification and Assessment	3
ACR	110	Minor Collision Repair	2
SCT	100	Introduction to Microcomputers	3

Technical Major **30**
 (Students must choose one of the following options)

Collision Repair

ACR	120	Conventional Frame Repair	3
ACR	121	Unibody Identification and Damage Analysis	2
ACR	122	Unibody Measuring and Fixturing Systems	2
ACR	123	Unibody Straightening Systems and Techniques	4
ACR	124	Welding Techniques	2
ACR	125	Unibody Structural Panel Repair and Replacement	3
ACR	126	Conventional Body Structural Panel Repair	5
ACR	127	Unibody Suspension and Steering Systems	2
ACR	128	Bolt-on Body Panel Removal and Replacement	4
ACR	129	Major Collision Repair Internship	3
	OR		3
		Elective	

Paint and Refinishing

ACR	130	Sanding, Priming, and Paint Preparation	5
ACR	132	Special Refinishing Application	5
ACR	134	Urethane Enamels Refinishing Application	6
ACR	135	Tint and Match Colors	6
ACR	136	Detailing	2
ACR	137	Paint and Refinishing Internship	3
	OR		3
		Elective	
	AND		
		Elective	3

AUTOMOTIVE COLLISION MAJOR REPAIR ASSISTANT CURRICULUM OUTLINE

Technical Certificate of Credit Program (Major Code: 5DU1)

Credit Required for Completion: 26 quarter credit hours

Technical Certificate			26
ACR	120	Conventional Frame Repair	3
ACR	121	Unibody Identification and Damage Analysis	2
ACR	122	Unibody Measuring and Fixturing Systems	2
ACR	124	Welding Techniques	2
ACR	125	Unibody Structural Panel Repair and Replacement	3
ACR	126	Conventional Body Structural Panel Repair	5
ACR	127	Unibody Suspension and Steering Systems	2
ACR	128	Bolt-on Body Panel Removal and Replacement	4
ACR	129	Major Collision Repair Internship	3
	OR		3
		Elective	

AUTOMOTIVE BODY MINOR REPAIR ASSISTANT CURRICULUM OUTLINE

Technical Certificate of Credit Program (Major Code: 5DV1)

Credit Required for Completion: 21 quarter credit hours

Technical Certificate			Credits
ACR	100	Safety	1
ACR	101	Automotive Components Identification	3
ACR	102	Equipment and Hand Tools Identification	1
ACR	104	Mechanical and Electrical Systems	2
ACR	105	Body Fiberglass, Plastic, and Rubber Repair Techniques	3
ACR	106	Welding and Cutting	4
ACR	107	Trim, Accessories, and Glass	2
ACR	109	Damage Identification and Assessment	3
ACR	110	Minor Collision Repair	2

AUTOMOTIVE REPAINTING AND REFINISHING SPECIALIST CURRICULUM OUTLINE

Technical Certificate of Credit Program (Major Code: 5DX1)

Credit Required for Completion: 30 quarter credit hours

Technical Certificate			Credits
ACR	130	Sanding, Priming, and Paint Preparation	5
ACR	132	Special Refinishing Application	5
ACR	134	Urethane Enamels Refinishing Application	6
ACR	135	Tint and Match Colors	6
ACR	136	Detailing	2
ACR	137	Paint and Refinishing Internship	
	OR		3
		Elective	
	AND		
		Elective	3

AUTOMOTIVE COLLISION REPAIR

Department Code: ACR

ACR 100 Safety (1-0-1)

Banner Title: Safety

This course focuses on the procedures and practices necessary for the safe operation of automotive collision repair facilities. Topics include work facility safety and cleanliness, safety devices, fire prevention and safety, and environmental safety.

Prerequisite: Provisional admission

Offered Fall and Spring terms

ACR 101 Automotive Components Identification (3-1-3)

Banner Title: Auto Components
Identification

This course introduces the structural configuration and identification of the structural members of various automotive unibodies and frames. Topics include unibody con-

struction, frame types, stub frame types, body panels, and mechanical components.

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 102 Equipment and Hand Tools Identification (1-1-1)

Banner Title: Equip/Hand Tool
Identification

Program instructors introduce students to the equipment and hand tools used in automotive collision repair. Topics include safety procedures, hand tools identification, power hand tools identification, air supply systems, and hydraulic systems.

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 104 Mechanical and Electrical Systems (1-3-2)

Banner Title: Mechanical/Electrical
Systems

This course introduces various mechani-

cal and electrical systems that require repair because of damages incurred in automobile collisions. Topics include engine accessory systems, emission control systems, air conditioning systems, braking systems, steering columns, engine removal and replacement sequence, lighting systems, engine wiring, power accessory systems, and restraint systems.

Prerequisites/Corequisites: ACR 100

Offered Summer and Winter terms

ACR 105 Body Fiberglass, Plastic, and Rubber Repair Techniques (1-7-3)

Banner Title: Body Repair Techniques

This course introduces nonmetallic repair techniques on automobile bodies. Topics include cracked and splintered area repair, bonding agent usage, plastic and fiberglass body parts removal and replacement procedures, partial fiberglass header panel replacement procedures, plastic identification, plastic and rubber welding techniques, and sheet molded compound

(SMC) repairs. Students must pay a \$30 supply fee when registering for this course.
Prerequisites/Corequisites: ACR 100
Offered Summer and Winter terms

ACR 106
Welding and Cutting (2-5-4)

Banner Title: Welding and Cutting

This course introduces the welding and cutting procedures used in auto collision repair. Instructors place emphasis on MIG welding techniques. Topics include MIG welding, oxyfuel welding, metal cutting techniques, resistance welding, unibody welding techniques, weld removal techniques, plasma arc cutting, and safety procedures. Students must pay a \$15 supply fee when registering for this course.

Prerequisites/Corequisites: ACR 100

Offered Fall and Spring terms

ACR 107
Trim, Accessories, and Glass (1-3-2)

Banner Title: Trim/Accessories/Glass

This course provides instruction in removal and replacement methods of a variety of non-structural cosmetic and safety features of automobiles. Topics include interior and exterior trim, mirrors, weather stripping, stationary and non-stationary glass, interior components, fasteners, and safety procedures.

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 109
Damage Identification and Assessment (2-2-3)

Banner Title: Damage Identification Assess

Instructors introduce procedures and resources used in identifying and assessing automotive collision damages. Topics include assessment plan determination, damage analysis, collision estimation, service manual use, and computerized estimation.

Prerequisites: ACR 100

Offered Summer and Winter terms

ACR 110
Minor Collision Repair (1-5-2)

Banner Title: Minor Collision Repair

This course introduces the materials and operations required to repair minor collision damage. Topics include pick, file, and finish procedures; body repair materials identification; body fillers usage; disc grinder procedures; safety procedures; and stud welders.

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 120
Conventional Frame Repair (1-5-3)

Banner Title: Conventional Frame

Repair

This course emphasizes the diagnosis, straightening, measurement, and alignment of conventional automobile and truck frames. Topics include alignment measurement systems; damage diagnosis; equipment types and usage; frame straightening, repair and alignment; computerized damage diagnosis; and safety precautions. Students must pay a \$30 supply fee when registering for this course.

Prerequisites: ACR 100, ACR 106,

ACR 110

Offered Fall and Spring terms

ACR 121
Unibody Identification and Damage Analysis (1-4-2)

Banner Title: Unibody Damage Analysis

Students learn to identify and analyze various forms of unibody damage in this course. Topics include collapse or buckle damage identification; sag, sideways, twist, and secondary damage identification; and lift equipment usage and safety.

Prerequisite: ACR 100

Offered Fall and Spring terms

ACR 122
Unibody Measuring and Fixturing Systems (1-4-2)

Banner Title: Unibody Measuring/

Fixturing

Instructors introduce students to a variety of alignment measuring and fixturing systems in this course. Topics include universal mechanical and laser measuring systems, dedicated fixture systems, upper body panel measurement, and English/metric tape alignment measurement.

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 123
Unibody Straightening Systems and Techniques (1-9-4)

Banner Title: Unibody Straightening

Systems

This course introduces unibody straightening systems and techniques. Topics include equipment types and usage, safety procedures, primary/rough and secondary damage pull, single and multiple pull correction, and impact or pull stress relief.

Prerequisites: ACR 100

Offered Summer and Winter terms

ACR 124
Welding Techniques (0-5-2)

Banner Title: Welding Techniques

This course provides instruction in specific welding applications used in automotive collision repair. Topics include MIG welder panel welding, plug welding collision repair, butt weld collision repair, lap weld collision repair, resistance welding, aluminum MIG and aluminum TIG welding, and safety procedures. Students must pay a \$30 supply fee when registering for this course.

Prerequisite: ACR 100, ACR 106

Offered Summer and Winter terms

ACR 125
Unibody Structural Panel Repair and Replacement (1-5-3)

Banner Title: Unibody Panel Repair

Instructors introduce attachment methods, proper repair and replacement of structural panels, dimensional control, areas of high stress concentration, sectional principles, and crush zones. This course places emphasis on the selection and preparation of recycled parts. Topics covered in the course include primary structure, rear cross member, apron and rails, trans-X members, rockers, windshield posts, hinge pillars, center pillars, floor pans, spot weld removal, panel sectional cuts, damaged panel removal and replacement, and safety procedures.

Prerequisites/Corequisites: ACR 100,

ACR 106

Offered Summer and Winter terms

ACR 126
Conventional Body Structural Panel Repair (2-8-5)

Banner Title: Conventional Body Panel

Repair

This course introduces conventional body structural panel repair by emphasizing a variety of removal and replacement techniques. Topics include partial or complete quarter panel removal and replacement, rocker panel removal and replacement, and center pillar post removal and replacement.

Prerequisite/Corequisite: ACR 100,

ACR 106

Offered Fall and Spring terms

ACR 127
Unibody Suspension and Steering Systems (2-3-2)

Banner Title: Unibody Suspension/

Steering

This course provides instruction in unibody suspension and steering system damage analysis and repair, including

theory, parallelogram suspension parts removal and replacement, rack and pinion steering system removal and replacement, damage analysis, quick check system damage determination, front-end suspension equipment usage, and safety procedures.

Prerequisite/Corequisite: ACR 100, ACR 104

Offered Fall and Spring terms

ACR 128

Bolt-On Body Panel

Removal and Replacement (2-5-4)

Banner Title: Bolt-On Body Panel Replacement

This course focuses on the removal and replacement of bolt-on automobile body panels, including hoods, deck panels, header panels, fenders, doors, head lamp and filler panels, and grills. Students also practice head lamp adjustment techniques.

Prerequisite: Provisional admission
Offered Fall and Spring terms

ACR 129

Major Collision

Repair Internship

(0-10-3)

Banner Title: Collision Repair Internship

This internship course provides occupational-based learning opportunities for students who are pursuing the Major Collision Repair specialization. Professional technicians mentor students as they experience working in the Automotive Collision Repair profession in an industry-standard commercial repair facility or industry-standard simulated on-campus facility. Topics include conventional frame repair, unibody damage identification and analysis, unibody measuring and fixturing systems, unibody straightening systems and techniques, unibody welding techniques, unibody structural panel repair and replacement, conventional body structural panel repair, unibody suspension and steering systems, and bolt-on body panel removal and replacement.

Prerequisites: ACR 120, ACR 121, ACR 122, ACR 123

Offered Summer and Winter terms

ACR 130

Sanding, Priming, and Paint Preparation

(2-7-5)

Banner Title: Sanding/Priming/Paint Prep

Instructors introduce students to the materials and procedures involved in preparing automobile bodies for refinishing. Topics include feather edging, masking procedures, safety procedures, surface preparation, cor-

rosion preventive applications, primers, sealers, primer surface applications, and spray gun operations and maintenance.

Prerequisite: Provisional admission

Prerequisite/Corequisite: ACR 100

Offered Fall and Spring terms

ACR 132

Special Refinishing

Application

(2-8-5)

Banner Title: Special Refinishing Appl

Students learn about the equipment, material, and techniques used in the application of special paints in this course. Instructors emphasize automotive refinishing procedures. Topics include safety; paint identification; base metals preparation and priming; equipment use and maintenance; color application; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and fiberglass, plastics, and rubber refinishing. Students must pay a \$30 supply fee when registering for this course.

Prerequisites: ACR 100

Offered Fall and Spring terms

ACR 134

Urethane Enamels

Refinishing Application

(2-10-6)

Banner Title: Urethane Enamels

Refinishing

This course introduces the equipment, material, and techniques used in the application of urethane enamels paint. Topics include safety; paint identification; base metals preparation and priming; equipment use and maintenance; base coat and clear coat application; color application of solid and metallic finishes; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and tri-coat finishes. Students must pay a \$30 supply fee when registering for this course.

Prerequisite: ACR 130, ACR 132

Offered Summer and Winter terms

ACR 135

Tint and Match Colors

(2-8-6)

Banner Title: Tint and Match Colors

Students receive an introduction to the methods and techniques used in the process of color matching and production. Topics include tinting methods, gun techniques, variable adjustments, color flip-flop (light reflection angle variance) determination and correction, and reduction procedures.

Prerequisites/Corequisites: ACR 130, ACR 132

Offered Summer and Winter terms

ACR 136

Detailing

(1-4-2)

Banner Title: Detailing

This course introduces the methods and techniques used in detailing a refinished automotive surface. Topics include finish analysis, color sanding, polishes and glazes, cleaning vehicles, and decals and stripes.

Prerequisite/Corequisite: ACR 100

Offered Summer and Winter terms

ACR 137

Paint and Refinishing

Internship

(0-10-3)

Banner Title: Paint/Refinishing Internship

This course provides occupational-based learning opportunities for students pursuing the Paint and Refinishing specialization. Qualified technicians mentor students as they experience working in an industry-standard commercial repair facility or industry-standard simulated on-campus facility. Topics include sanding, priming, and paint preparation; special refinishing applications; urethane enamels; tint and match colors; detailing; and employability skills.

Prerequisites: ACR 130, ACR 132,

ACR 134

Offered Summer and Winter terms

EMPLOYABILITY SKILLS

Department Code: EMP

EMP 1000

Interpersonal Relations and

Professional Development (3-0-3)

Banner Title: Interpersonal Relations

Students study human relations and professional development in today's changing world in order to prepare themselves for living and working in a complex society. Topics include human relations skills, job acquisition skills and communications, job retention skills, job advancement skills, and professional image skills.

Prerequisite: Provisional admission

Offered quarterly

ENGLISH

Department Code: ENG

ENG 1010

Fundamentals of English I (5-0-5)

Banner Title: Fundamentals of English I

This course emphasizes the development and improvement of written and oral communication abilities. Topics include analysis of writing techniques, applied

grammar and writing skills, editing and proofreading skills, research skills, and oral presentation skills.

Prerequisites: ENG 097 with a grade of C or better and RDG 097 with a grade of C* or better or placement by diagnostic testing*

Offered quarterly

MATHEMATICS

Department Code: MAT

MAT 1012

Foundations of Mathematics

(5-0-5)

Banner Title: Foundations of Mathematics

This course emphasizes the mathematical skills that can be applied to the solution of occupational and technical problems. Topics include properties of numbers, fractions, decimals, percents, ratios and proportions, measurement and conversions, formula manipulation, technical applications, and basic statistics.

Prerequisite: MAT 097 with a grade of C or better or placement by diagnostic testing*

Offered quarterly

SCIENCE AND TECHNOLOGY

Department Code: SCT

SCT 100

Introduction to Microcomputers

(1-4-3)

Banner Title: Intro to Microcomputers

This course introduces the fundamental concepts and operations necessary to use microcomputers. Course content emphasizes basic functions and familiarity with computer use. Topics include computer terminology and an introduction to the Windows environment, networking, word processing, spreadsheets, presentation graphics, and databases.

Prerequisite: Provisional admission

Offered quarterly