

# Auto Collision Repair and Refinish Technician

Program Number: 31-405-1

## One-Year Technical Diploma

Transportation Program Cluster

School of Applied Technology

Program offered at Madison Campuses

For information call: (608) 246-6102 or  
(800) 322-6282 Ext. 6102

## About the Program

This one-year program provides students with the necessary skills for job entry into the metal finishing and painting areas of the auto body and light truck trade. Courses cover welding, panel replacement, metal forming, sheet metal alignment and finishing.

## Application Process

To apply to the program, students must submit a complete application. A completed application consists of (1) Application; (2) Application fee; and (3) High school transcripts – or - GED/HSED test scores – or – college transcript showing an Associate, Bachelor, or higher degree from an institution other than Madison College.

## Unique Requirements for Admission

There are no unique requirements for admission to this program.

## Unique Requirements for Graduation

Students must meet two 2.0 GPA requirements to graduate. (1) GPA for entire program must be 2.0 or above; (2) GPA of combined occupational courses (405) must be 2.0 or above.

## Curriculum

The courses listed below outline the requirements for graduation for students entering this program in the 2012-2013 academic year. Requirements for graduation may vary depending on the semester in which a student is admitted to their program. Current/continuing students should consult their degree progress report available through their student center account for specific graduation requirements. Program requirements are subject to change.

### FIRST YEAR

First Semester		Credits	Hrs/week Lec-Lab
32-405-301	Basic Sheet Metal Repair & Welding Fund .....	5	0-10
32-405-302	Refinishing 1 .....	5	0-10
32-405-341	Collision Mechanical Systems .....	2	2-2
32-405-361	Collision Repair/Refinishing Theory 1 .....	3	5-0
10-104-189	Customer Relations .....	2	2-0
<b>Semester Total</b>		<b>17</b>	

### Second Semester

32-405-303	Non-Structural Panel Repair & Glass Servicing.....	5	0-10
32-405-304	Refinishing 2/Trim & Hardware .....	5	0-10
32-405-340	Collision Electrical Fundamentals .....	2	2-2
32-405-363	Collision Repair/Refinishing Theory 2 .....	3	5-0
31-804-379	Vocational Mathematics 1 .....	1	2-0
<b>Semester Total</b>		<b>16</b>	

*Note: Students are placed in English or mathematics courses based on their scores on the COMPASS or ASSET test or on completion of the appropriate prerequisite/s.*



## Program Courses

**32-405-301 Basic Sheet Metal Repair & Welding Fundamentals 5 credits**

Course material covers the introduction in the use of an oxyacetylene welding/cutting outfit as related to collision repairs. A heavy emphasis is placed on the mig welding process, types of welds and techniques use of hammer and dolly, pry tools, stud guns, air and electrical tools, hydraulic-porto-power jacks and other straightening tools, used in the processes of metal finishing and plastic filling. Co-reqs: First semester core courses must be taken together: Basic Sheet Metal (32-405-301); Refinishing 1 (32-405-302); and Collision Theory 1 (32-405-361).

**32-405-302 Refinishing 1 5 credits**

The refinishing phase includes instruction in the proper use and maintenance of the spray gun, refinishing panels and fenders, spot repairing of panels and fenders, and mixing of paint formulas. Application of primers, sealers, single stage, and base coat/clear coat are covered. Instruction in shop, tool and paint safety, and state and federal environmental concerns are presented. Co-reqs: First semester core courses must be taken together: Basic Sheet Metal (32-405-301); Refinishing 1 (32-405-302); and Collision Theory 1 (32-405-361).

**32-405-303 Non-Structural Panel Repair & Glass Servicing 5 credits**

Further development of straightening skills and sheet metal alignment is achieved by performing these activities on automobiles. Such operations as straightening damages sheet metal on fixed parts and removable panels are performed. Instruction on the replacement of fixed glass such as windshields, rear window, and side glass is covered using industry standards. Further instruction includes the components and procedures involved in the removal and installation of movable glass. Students must be admitted to Auto Collision program. Pre-reqs: First semester core courses. Co-reqs: 2nd semester core courses must be taken together (32-405-303; 32-405-304; 32-405-340; 32-405-341; and 32-405-363).

**32-405-304 Refinishing 2/Trim & Hardware 5 credits**

The refinishing phase includes further instruction in the proper use of the spray gun, performing partial and complete refinishing repairs on vehicles. Procedures for blending and tinting of the paint to achieve an acceptable color match are practices. Shop and paint safety practices are emphasized. Instruction on the safe removal and installation of trim and hardware is covered along with specialty tools necessary to perform operations using industry accepted procedures. Pre-reqs: First semester core courses. Co-reqs: 2nd semester core courses must be taken together (32-405-303; 32-405-304; 32-405-340; 32-405-341; and 32-405-363).

**32-405-340 Electrical Fundamentals for Automotive Collision Repair 2 credits**

This course is an introduction to automotive electrical systems, including basic electricity, trouble shooting and repair of common electrical circuits, wiring diagrams, soldering, power accessories and restraint systems. Standards for safety when working with electrical systems are emphasized. Pre-reqs: First semester core courses. Co-reqs: 2nd semester core courses must be taken together (32-405-303; 32-405-304; 32-405-340; 32-405-341; and 32-405-363).

**32-405-341 Collision Mechanical Systems 2 credits**

This course covers basic operations and servicing principles of brake systems, fuel and exhaust systems, heating and cooling systems, suspension and steering systems and automotive air conditioning principles including components that make up an A/C system. Regulations regarding discharging/recharging and trouble shooting as related to collision repair is also included. Safety practices regarding mechanical systems are covered. Pre-reqs: First semester core courses. Co-reqs: 2nd semester core courses must be taken together (32-405-303; 32-405-304; 32-405-340; 32-405-341; and 32-405-363).

**32-405-361 Collision Repair/Refinishing Theory 1 3 credits**

Covers related information on all phases of auto body welding and metal straightening with hand tools. Collision damage analysis of sheet metal and unibodies is studied. Different types of sheet metal, such as HSS and HSLA, as well as the properties of sheet metal are discussed. Where and how to use plastic filler is presented. Paint equipment such as the operation and maintenance of the spray gun is studied. Extensive discussion takes place on refinish products, surface preparation, sanding and polishing, thinners and reducers and top coat application. Instruction in shop, tool, paint safety, and state and federal environmental concerns and regulations are presented. Co-reqs: First semester core courses must be taken together: Basic Sheet Metal (32-405-301); Refinishing 1 (32-405-302); and Collision Theory 1 (32-405-361).

**32-405-363 Collision Repair/Refinishing Theory 2 2 credits**

To further promote knowledge of repair skills related to auto collision repair and refinishing, the following discussion areas are included: the evaluation of automobile bodies and damage repair techniques, unibody construction and repair techniques, vehicle preparation, metal correction and parts replacement. Additional instruction includes glass installation, electrical accessories, door and window servicing and trim replacement. Pre-reqs: First semester core courses. Co-reqs: 2nd semester core courses must be taken together (32-405-303; 32-405-304; 32-405-340; 32-405-341; and 32-405-363).

## Career Potential:

- Auto Body Technician
- Painting Technician
- Frame and Alignment Technician
- Trim and Glass Installer

With additional education and/or work experience, graduates may find employment as:

- Unibody Repair Specialist
- Manager/Shop Owner
- Insurance Adjuster and Appraiser
- Equipment and Supplies Specialist
- Frame and Alignment Specialist

*More detailed and updated information on this program may be available at: [madisoncollege.org](http://madisoncollege.org). The college reserves the right to make changes in the regulations and courses announced in this publication without notice.*

*Madison Area Technical College provides equal opportunity in education and employment.*

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