

Collision Repair Technology (CRT)

CRT 100R. Paint Your Own Car. (2 Credits)

Designed as a survey class. Discusses and demonstrates safety, sanding, masking, feather edging, priming, and refinishing of student's vehicle. Students will refinish their own projects in this class. Body and fender dents, rust out, etc., should be taken care of before class enrollment. The instructor will inspect and approve each project prior to allowing it in the program. Course is open to any community member who may profit from the instruction. May be repeated as desired for interest.

Tool room fee of \$19 for equipment applies.

CRT 1110. Surface Preparation. (2 Credits)

Covers environmental and personal safety when handling collision industry chemicals. Discusses metal preparation, surface treatment, painting and surface rust removal, proper sanding of old finishes, and film build tolerances. Teaches application and uses of undercoats, primers, primer surfacers, sealers and primer sealers. Covers block sanding, guide coats, wax and grease removers, and surface pre-cleaning techniques.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 111L. Surface Preparation Lab. (1 Credit)

Corequisite(s): CRT 1110

Provides laboratory experience for surface preparation techniques aligning with lectures from CRT 1110. Topics include finish removal, sanding techniques, undercoating materials.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$40 for materials applies.

CRT 1120. Nonstructural Repair. (2 Credits)

Offers in-depth analysis of minor damage and applied metal working techniques. Studies properties of metal, elasticity, corrosion protection, work hardening, rough out, hammer and dolly techniques, heat shrinking, pick and file and grinding methods. Presents application of corrosion protection materials, body fillers, including metal and fiber reinforced fillers, and their shaping. Emphasizes safety precautions.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 112L. Nonstructural Repair Lab. (1 Credit)

Corequisite(s): CRT 1120

Provides a laboratory experience for nonstructural repair techniques aligning with lectures from CRT 1120. Topics include fillers use, metallurgy, shrinking and stretching.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$22 for materials applies.

CRT 1130. Overall Refinishing and Problem Solving. (2 Credits)

Teaches use and maintenance of shop paint spray equipment. Studies types of undercoatings including sealers, primers, and primer surfacers, their use, limitations, and application. Discusses refinish products, their solid levels, coverage, and recommended refinish systems. Teaches prevention and removal of refinishing processing defects. Covers cutting and buffing. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 113L. Overall Refinishing and Problem Solving Lab. (1 Credit)

Corequisite(s): CRT 1130

Provides a laboratory experience for overall refinishing and problem solving techniques aligning with lectures from CRT 1130. Topics include safety, substrate usage, application techniques, base coats, clear coats, single stage paints, and tri coat processes, application / refinish / material defects, causes and cures.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$74 for materials applies.

CRT 1140. Panel Replacement and Adjustment. (2 Credits)

Studies removal, replacement, and alignment of bolt-on body panels. Presents multiple latch mechanisms and their adjustments. Various trim and body fasteners are discussed. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 114L. Panel Replacement and Adjustment Lab. (1 Credit)

Corequisite(s): CRT 1140

Provides a laboratory experience for panel replacement and adjustment techniques aligning with lectures from CRT 1140. Topics include replacement and alignment of bolt-on body panels, fasteners and trim.

Tool room fee of \$19 for equipment applies.

CRT 1210. Blending Tinting and Detailing. (2 Credits)

Studies automotive refinish blending techniques. identifies proper procedures for Single stage, Base Coat, and Tri stage blending. Identifies detailing techniques and materials. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 121L. Blending Tinting and Detailing Lab. (1 Credit)

Corequisite(s): CRT 1210

Provides a laboratory experience for blending tinting and detailing techniques. Identifies proper procedures for Single stage, Base coat, and Tri stage blending. Identifies detailing techniques and materials.

Tool room fee of \$10 for equipment applies.

Course Lab fee of \$53 for materials applies.

CRT 1230. Welding and Cutting. (2 Credits)

Introduces gas welding and cutting followed by intense study of MIG, TIG, STRSW welding of mild, high strength, ultra high strength steels, and aluminums. Studies the most common joints as they apply to current vehicles construction techniques. Introduces plasma arc cutting techniques. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 123L. Welding and Cutting Lab. (1 Credit)

Provides a laboratory experience for welding and cutting techniques aligning with lectures from CRT 1230. Topics include MIG, TIG, Squeeze Type Resistant Spot Welding (STRSW), welding processes.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$39 for materials applies.

CRT 2310. Collision Damage Reporting. (2 Credits)

Prerequisite(s): CRT 1120, CRT 1130, CRT 1230, recommended

Teaches estimating procedures. Uses Crash Estimating Guide. Covers labor and material costs, judgment of repairs, estimating, and insurance nomenclature. Includes computer generated damage reporting, page logic, and ethical problem solving. Uses lecture, guest speakers, and practice exercises. Includes demonstrations, and lab. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 231L. Collision Damage Reporting Lab. (1 Credit)

Prerequisite(s): CRT 112L, CRT 113L, CRT 123L, all recommended

Corequisite(s): CRT 2310

Provides a laboratory experience for collision damage estimating techniques aligning with lectures from CRT 2310. Topics include: damage analysis sequence, repair and replace decisions, using crash estimating guide, procedure page analysis of crash estimating guide, selecting parts and labor amounts in crash estimating guide, and various estimating programs for the computer.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$23 for materials applies.

CRT 2320. Structural Damage Analysis. (2 Credits)

Prerequisite(s): CRT 1230

Teaches visual inspection, gauging, measuring, laser technology, and procedures needed to correctly evaluate primary and secondary structural damage. Includes lecture, demonstrations, and lab. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 232L. Structural Damage Analysis Lab. (1 Credit)

Prerequisite(s): CRT 123L

Corequisite(s): CRT 2320

Provides a laboratory experience for analyzing structural damage to conventional and unibody frames. Aligns with lectures from CRT 2320. Topics include: damage identification, body and frame measurement systems, interpret dimension information, set up and properly use a variety of manual, and computerized measuring systems.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$20 for materials applies.

CRT 2330. Structural Repair. (2 Credits)

Prerequisite(s): CRT 1230

Teaches methods, strategies, and technology needed to align and straighten unibody and conventional frame components made from high strength steel and plastics. Studies alignment of steering and suspension components. Includes lecture, demonstrations, and lab.

Software fee of \$10 applies.

Lab access fee of \$10 applies.

CRT 233L. Structural Repair Lab. (1 Credit)

Prerequisite(s): CRT 123L

Corequisite(s): CRT 2330

Provides a laboratory experience for aligning and straightening unibody and conventional components made from high strength steel and plastics.

Tool room fee of \$19 for equipment applies.

CRT 2340. Full and Partial Panel Replacement. (2 Credits)

Prerequisite(s): CRT 1140, CRT 1230

Teaches removal, alignment, welding, gluing, and corrosion protection technology needed to replace unibody components including rails, pillars, and weld-on panels. Includes lecture, demonstrations, and lab. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 234L. Full and Partial Panel Replacement Lab. (1 Credit)

Prerequisite(s): CRT 114L, CRT 123L

Corequisite(s): CRT 2340

Provides a laboratory experience for full and partial panel replacement, aligning with lectures from CRT 2340. Topics include: removal, alignment, welding, gluing, and corrosion protection technology needed to replace unibody components: including rails, pillars, and weld-on panels.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$15 for materials applies.

CRT 2400. Plastic Paintless Dent Repair. (2 Credits)

Prerequisite(s): CRT 1110, CRT 1120

Teaches plastic parts identification, interpretation of ISO codes, plastic welding equipment and techniques, SMC repairs and sectioning. Instructs in paintless dent repair tools, and methods of repair. Uses Advanced Tech I-CAR curriculum. Includes lecture, demonstrations.

CRT 240L. Plastic PaintLess Dent Repair Lab. (1 Credit)

Prerequisite(s): CRT 111L, CRT 112L

Corequisite(s): CRT 2400

Provides a laboratory experience for plastic parts identification, interpretation of ISO codes, plastic welding equipment and techniques, SMC repairs and sectioning. Instructs in paintless dent repair tools, and methods of repair. Uses Advanced Tech I-CAR curriculum. Includes hands-on demonstrations.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$35 for materials applies.

CRT 2420. Plastic Repair. (4 Credits)

Teaches various repair methods, tools, and materials used to correctly repair plastic materials and SMC panels in modern vehicles. Includes lecture, demonstrations, and lab. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 2430. Mechanical and Electrical Repair. (4 Credits)

Teaches basic mechanical systems theory, removal, and replacement. Studies A/C systems, cooling, braking, emission, restraint, and electrical systems. Includes lecture, demonstrations and lab. Uses ICAR Advanced Technical Curriculum. Successful completers should be prepared for ASE certification.

Software fee of \$10 applies.

Lab access fee of \$15 for computers applies.

CRT 2440. Mechanical Advanced Vehicle Systems. (2 Credits)

Teaches basic mechanical systems theory, removal, and replacement. Studies basic four-wheel steering, traction control, G.P.S., electronic stability control, and black box technology information systems, minor diagnosis and troubleshooting. Includes lecture and demonstrations. Uses Advanced Tech I-CAR curriculum.

CRT 244L. Mechanical Advanced Vehicle Systems Lab. (1 Credit)

Corequisite(s): CRT 2440

Provides a laboratory experience for mechanical systems theory, removal, and replacement. Instructs in basic-four wheel steering, traction control, G.P.S., electronic stability control, and black box technology information systems, minor diagnosis and troubleshooting. Includes demonstrations and hands-on. Uses I-CAR Advanced Technical Curriculum.

Tool room fee of \$19 for equipment applies.

CRT 2450. Bags Brakes Steering. (2 Credits)

Teaches the operation and repair of active and passive restraint systems. Diagnosis of sensors, modules and related components is also discussed. Discusses drum, disc, and anti-lock brake systems and components. Covers parallelogram, and rack and pinion steering systems, repair, replacement and diagnosis of each system is addressed. Uses Advanced Tech I-CAR curriculum.

CRT 245L. Bags Brakes Steering Lab. (1 Credit)

Corequisite(s): CRT 2450

Teaches the operation and repair of active and passive restraint systems. Diagnosis of sensors, modules and related components is also discussed. Discusses drum, disc, and anti-lock brake systems and components. Covers parallelogram, and rack and pinion steering systems, repair, replacement and diagnosis of each system is addressed. I-CAR Advanced Tech curriculum is used.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$27 for materials applies.

CRT 2510. Custom Welding. (2 Credits)

For students pursuing a Diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members with a welding background. Covers TIG welding processes for mild steel, stainless steel, and aluminum. Teaches oxyacetylene welding processes for mild steel, brass, copper, pot metal, and aluminum.

CRT 251L. Custom Welding Lab. (1 Credit)

Corequisite(s): CRT 2510

Provides a laboratory experience for TIG welding processes for mild steel, stainless steel, and aluminum. Instruction in Oxyacetylene welding processes for mild steel, brass, copper, pot metal, and aluminum.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$69 for materials applies.

CRT 2520. Customizing. (2 Credits)

For students pursuing a Diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members with a welding background. Covers frenching, shaving, body modifications, convertible conversions, building hood scoops, louvers, flare, and other technical customizing processes.

CRT 252L. Customizing Lab. (1 Credit)

Corequisite(s): CRT 2520

Provides a laboratory experience for frenching, shaving, body modifications, convertible conversions, building hood scoops, louvers, flare, and other technical customizing processes.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$11 for materials applies.

CRT 2530. Panel Fabrication. (2 Credits)

For students pursuing a Diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members. Covers basic fabricating tools such as sheet metal brake, slip rolls, band saw, and nibblers. Uses specialty tools such as English wheel, power hammer, kraftformer, plenisher hammer, shrinkers, and stretchers. Teaches panel fabrication and hammer forming.

CRT 253L. Panel Fabrication Lab. (1 Credit)

Corequisite(s): CRT 2530

Provides a laboratory experience for basic fabricating tools such as sheet metal brake, slip rolls, band saw, and nibblers. Uses specialty tools such as English wheel, power hammer, kraftformer, plenisher hammer, shrinkers, and stretchers. Teaches panel fabrication and hammer forming.

Tool room fee of \$19 equipment applies.

Course Lab fee of \$60 materials applies.

CRT 2540. Structural Body Fabrication. (2 Credits)

For students pursuing a diploma or AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members. Covers body construction from bumper to bumper and from roof to floor. Enhances knowledge of structural components of a well constructed vehicle.

CRT 254L. Structural Body Fabrication Lab. (1 Credit)

Corequisite(s): CRT 2540

Provides a laboratory experience for body construction from bumper to bumper and from roof to floor. Enhances knowledge of structural components of a well constructed vehicle.

CRT 2610. Top Chopping Sectioning and Channeling. (2 Credits)

Prerequisite(s): CRT 2510, CRT 251L

For students pursuing a Diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members with a basic welding and collision repair background. Covers the history of vintage vehicles, methods of top chopping, sectioning and channeling techniques.

CRT 261L. Top Chopping Sectioning and Channeling Lab. (1 Credit)

Prerequisite(s): CRT 2510, CRT 251L

Corequisite(s): CRT 2610

Provides a laboratory experience for methods of top chopping, sectioning and channeling techniques.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$16 for materials applies.

CRT 2620. Frames. (2 Credits)

Prerequisite(s): CRT 2510, CRT 251L

For students pursuing a Diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members with a welding background. Identifies the different types of frames and how to modify them. Teaches sub-framing, pro-streeting, narrowing of rear ends, drive shafts, and complete frame change over. Covers exhaust systems and other alterations, front to rear.

CRT 262L. Frames Lab. (1 Credit)

Prerequisite(s): CRT 2510, CRT 251L

Corequisite(s): CRT 2620

Provides a laboratory experience for identifying the different types of frames and how to modify them. Teaches sub-framing, pro-streeting, narrowing of rear ends, drive shafts, and complete frame change over. Covers exhaust systems and other alterations, front to rear.

Tool room fee of \$19 equipment applies.

CRT 2630. Detailing and Custom Painting. (2 Credits)

Prerequisite(s): CRT 1110, CRT 1120, CRT 1130, CRT 1140, CRT 1210

For students pursuing a Diploma or an AAS degree in Collision Repair Technology or Custom Street Rod Technology or interested community members with a automotive painting background. Teaches custom painting and detailing for show cars. Emphasizes flames, scallops, shredding, checker boarding, air brush techniques, murals, fish scales, three stage paints, pearls, candies, and multi-colored changes.

CRT 263L. Detailing and Custom Painting Lab. (1 Credit)

Prerequisite(s): CRT 111L, CRT 112L, CRT 113L, CRT 121L

Corequisite(s): CRT 2630

Provides a laboratory experience for custom painting and detailing for show cars. Emphasizes flames, scallops, shredding, checker boarding, air brush techniques, murals, fish scales, three stage paints, pearls, candies, and multi-colored changes.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$73 for materials applies.

CRT 2640. Panel Fabrication of Aluminum. (2 Credits)

Prerequisite(s): CRT 1110, CRT 1120, CRT 1130, CRT 1140

For students pursuing a diploma or an AAS degree in Collision Repair Technology with an emphasis in Custom Street Rod Technology or interested community members. Covers basic hand tools, such as: hammers, dollys, leather bags, and slappers. Use of specialty equipment, such as: English wheel, Pullmax, nibbler, power hammers, and bead rollers. Teaches making bucks, patterns and forms. Teaches panel fabrication of aluminum.

CRT 264L. Panel Fabrication of Aluminum Lab. (1 Credit)

Corequisite(s): CRT 2640

Provides laboratory experience for use of: hammers, dollys, leather bags, and slappers. Instructs in the use of specialty equipment, such as: English wheel, Pullmax, nibbler, power hammers, and bead rollers. Teaches making bucks, patterns and forms. Teaches panel fabrication of aluminum.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$60 for materials applies.

CRT 2650. Automotive Interior Design. (2 Credits)

Prerequisite(s): CRT 1110, CRT 1120, CRT 1130, CRT 1140

Discusses automotive interior designs with emphasis on color coordination, and materials. Identifies a variety of techniques used in alteration, sewing, layout, and attachment processes.

CRT 265L. Automotive Interior Design Lab. (1 Credit)

Corequisite(s): CRT 2650

Offers a laboratory experience for CRT 2650 lecture. Demonstrates interior design materials, color coordination, and stitching techniques. Teaches fabrication, design attachment, molding, layout and cutting.

Tool room fee of \$19 for equipment applies.

Course Lab fee of \$96 for materials applies.

CRT 281R. Cooperative Work Experience - Internship. (1-4 Credits)

Corequisite(s): CRT 285R

Designed for Collision Repair Technology Majors. Provides paid, on-the-job work experience in the student's major, with work experience, the correlated class, and enrollment coordinated by the Cooperative Coordinator. Includes student, employer and coordinator evaluations, on-site work visits. Provides experience in writing and completing individualized work objectives that improve present work performance. May be repeated for a maximum of 8 credits toward graduation. May be graded credit/no credit.

CRT 285R. Cooperative Correlated Class - Internship. (1-4 Credits)

Corequisite(s): CRT 281R

Designed for Collision Repair Technology Majors. Identifies on-the-job problems and provides remediation of those problems through in-class discussion and study. Includes the study of identifying and maximizing service opportunities. Students register for this class with the approval of the Cooperative Coordinator. Includes lecture, guest speakers, video tapes, role playing, case analysis, oral presentations, and written assignments. Completers should be better able to perform in their field of work or study. May be repeated for a maximum of 8 credits toward graduation. May be graded Credit/No Credit.

CRT 299R. Skills USA. (1 Credit)

Supports and facilitates the goals and objectives of Skills USA, which is a pre-professional student organization that develops social awareness, civic, recreational, and social activities. Prepares students to participate in local, state, and national contests. May be repeated for a maximum of 4 credits towards graduation.