



Rod and Custom Technology



This comprehensive program is designed to allow students to let their imagination and creativity run to create custom vehicles. This course was created for students who are interested in pursuing a career in the specialty industries of street rods, customs and concept vehicles. Students will learn to plan and design their custom project and create real-world estimates. Then students will learn fabrication techniques, make external body modifications and modify the suspension system. Other areas of instruction will include mobile electronics, paint and refinishing, custom paint and graphics, interior modifications and engine and drive train modifications. To finish the project vehicles, students will perform interior modifications including upholstery and then perform final assembly tasks and detail the vehicle for delivery. The course provides the fundamental core skills as well as an advanced skill so that students can continue to a career in vehicle customizing, restoration, collision repair, custom paint, and mobile electronics industries.

<u>Course</u>	<u>Course Title</u>	<u>Clock Hours</u>	<u>Weeks</u>	<u>Quarter Credit Hours</u>
RCT-101	Concept Design & Planning	150	6	9.00
RCT-102	Body Fabrication	150	6	9.00
RCT-103	Exterior Modifications	150	6	9.00
RCT-104	Chassis and Suspension Modifications	150	6	8.50
RCT-105	Painting and Refinishing	150	6	8.50
RCT-106	Custom Paint & Graphics I	150	6	8.50
RCT-107	Custom Paint & Graphics II	150	6	8.50
RCT-108	Engine & Drive Train Modifications	150	6	8.50
RCT-109	Mobile Electronics	150	6	9.00
RCT-110	Welding	150	6	8.50
RCT-111	Interior Modifications & Upholstery	150	6	8.50
RCT-112	Final Assembly & Detailing	<u>150</u>	<u>6</u>	<u>9.00</u>
		1800	72	104.50

RCT-101 - Concept Design & Planning

This course is designed to introduce and explore various types of custom cars, create budgets, timelines, and processes to build custom vehicles. Students will create an exterior concept including body modifications, tire and wheels, exterior color(s), custom paint and vehicle graphics. Students will also create an interior concept including upholstery, engine and drive train modifications and then create a final rendering for customers. The student will then perform basic estimates for the project, address legal issues, seek customer approvals, create timelines for each phase and perform initial parts ordering using used, new and aftermarket parts.

RCT-102 - Body Fabrication

This course has students perform vehicle disassembly procedures, including body exterior trim, lights, and glass. Students will be able to bag, tag and store parts, and create repair or replace lists. The students' study and practice body fabrication techniques. They will perform hammer, hammer forming and dolly techniques as well as shrinking techniques. Students will use fabricating equipment and techniques including slip rollers, shears, brakes, press, notches, ban saws, shrinkers, and stretchers. In addition, they will learn fabricating techniques by using a bead roller and English wheel, and perform TIG welding functions on steel, aluminum, and stainless steel. Students will learn fiberglass and SMC molding techniques and create fiberglass plugs and molds. Finally, students will learn metal finishing techniques including picking and filing and perform rust repair, and finish work.

RCT-103 - Exterior Modifications

This course is designed to provide students with an understanding of exterior assembly of custom vehicles. In this course, students will learn to properly strip and treat metal, fix dents and remove the highs and lows of panels, and learn rust repair techniques, fix cracks, perform shaping, and use adhesives. Students will perform alignments and initial mock ups, learn how to install body kits including wing, spoiler and scoop installation, install ground effects, grills and guards and perform final mock ups on doors, mirrors, and hoods. Students will install door kits, and exterior assembly detail tasks including rubber, seals, bumpers, headlights, and exterior trim.



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RCT-104 - Chassis and Suspension Modifications

This course is designed to help students perform suspension modifications from proper disassembly of stock systems to raising and lowering the car, installing air bags, hydraulics, and perform spring replacements. In addition, students will install front struts, rear shocks and springs, perform coil over replacements and installation, and sway bar installation along with installing roll bars, supports, roll cages, and strut supports. Lastly, students will perform braking system modifications and installations.

RCT-105 - Painting and Refinishing

In this course, students will perform engine and interior fitment and then remove the engine. Then students will learn proper blocking and shaping techniques, learn to properly apply primer, use proper masking and cleaning techniques and perform color matching, sealing, apply base coats. Lastly, students will learn

RCT-106 - Custom Paint & Graphics I

This course is designed to provide students with a solid understanding of custom painting techniques. Students will learn to apply Pearls, Candies and Flake finishes, as well as utilize appropriate masking techniques to achieve desired results. Students will also learn to apply vinyl graphics, and pin striping techniques.

RCT-107 - Custom Paint & Graphics II

Students will learn to use airbrush equipment, learn their operation, maintenance and the basic skills needed to achieve desired results. Students will learn shadow, shading and color theory with an airbrush, learn to airbrush painted scenes and 3D skulls, true fire and real flames, textures, rips and tears, lightning, granite, brushed aluminum and wood grain finishes.

RCT-108- Engine & Drive Train Modifications

This course is designed to provide students with a solid understanding engine and drive train modifications. Students will perform engine installation and mounting and perform engine performance modifications including intakes, manifolds, superchargers, and turbochargers. Students will learn proper driveshaft fitment and transmissions modifications.

RCT-109 - Mobile Electronics

This course is designed to allow students to learn the theories involved with sound, video and mobile electronic systems. Students will learn electrical components and current vehicle electrical systems, installation of remote starters and security systems. They then move into installation of navigation systems, backup cameras, game consoles, and video electronics including TV, DVD and video systems.

RCT-110 – Welding

Students will be trained using the principles and practices of welding associated with I-CAR, manufacturers' and industry standards. They will learn about the use of oxy-acetylene heating and cutting techniques, MIG welding, TIG welding, resistance spot welding and plasma arc cutting

RCT-111 - Interior Modifications & Upholstery

In this course, students will learn to install gauges, steering wheels and other interior accessories. They will then learn upholstery supplies, and the tools & materials needed in upholstery work. Students will then learn upholstery and sewing techniques, learn how to upholster seats, side panels and carpet and learn to install headliners and vinyl tops.

RCT-112 - Final Assembly & Detailing

This course is designed to take the student through the final assembly process as well as to explore the art of vehicle detailing and specialty techniques. Students learn to install exterior trim, mirrors, and exhaust, as well as automotive glass and perform window tinting. Students also learn to detail a vehicle including the process, planning, and then detail the exterior and interior. Students will also learn plastic and headlight restoration and other add-on services to prepare a vehicle for customer delivery.

Courses applicable to both Diploma or Associate of Applied Science Degree Programs