  
1800 Bronson Blvd., Fennimore, WI 53809 | 608.822.3262 | Toll Free: 800.362.3322 | www.swtc.edu

**Auto Collision Repair & Refinish Technician Program**

**Course Curriculum**

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| **Semester 01**   (Tuition: $3,550  Books/Kits: $20-$30) | | |
| **Course #** | **Course Title** | **Credits** |
| 31-405-352 | Non-Structural Analysis & Damage Repair I | 3 |
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| Credits: 3 Lecture Hours: 18 Lab Hours: 72 The student evaluates in detail the proper use of various auto body tools and equipment, personal safety devices and studies shop safety procedures. The student learns proper materials and methods for detailing vehicle exterior, interior, and under hood. | | |
| 31-405-353 | Non-Structural Analysis & Damage Repair II | 4 |
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| Credits: 4 Lecture Hours: 27 Lab Hours: 117 Students remove, replace, and adjust sheet metal panels, composite parts, and moveable glass and trim. They repair damage on non-structural panels and aluminum panels of a vehicle. | | |
| 31-405-355 | Painting and Refinishing I | 3 |
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| Credits: 3 Lecture Hours: 18 Lab Hours: 72 Students use personal safety equipment relating to the auto body refinishing industry. Students prepare and refinish auto body panels off vehicles. Students evaluate surface preparation procedures and the proper use and care of refinishing equipment. Students mix paint and apply it to panels. | | |
| 31-405-356 | Auto Body Welding | 3 |
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| Credits: 3 Lecture Hours: 20 Lab Hours: 88 Students weld and repair structural and non-structural components of the automobiles. Students weld light gauge sheet metal using MIG welding. Students use personal safety equipment and safe work habits during welding processes which include Oxyfuel, MIG, & Resistance Spot Welding, as well as Oxyfuel and Plasma cutting. They perform Aluminum MIG welding and MIG brazing. | | |
| 31-405-359 | Plastics & Adhesives | 2 |
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| Credits: 2 Lecture Hours: 20 Lab Hours: 34 Students identify materials, analyze damage, estimate repair and refinish costs, formulate a repair procedure, and repair plastic components from automobiles. Students repair plastic components using hot-air and airless welding and adhesives on rigid and flexible plastics. Students remove structural glass and replace glass components with urethane adhesives. | | |
| 31-804-305 | Applied Mathematics | 2 |
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| Credits: 2 Lecture Hours: 54 Students compute with rational numbers. They make and convert various measurements. Students use formulas to solve problems. They compute dimensions of geometric shapes. Students use statistical tools to represent and analyze data. They analyze various financial situations. Students use basic right triangle trigonometry to solve problems. In each topic area, students solve application problems. | | |
|  |  | **17** |
| **Semester 02**   (Tuition: $3,440  Books/Kits: $70-$90) | | |
| **Course #** | **Course Title** | **Credits** |
| 31-404-347 | Electrical Fundamentals | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 54 Students gain the ability to apply the fundamentals of electricity and electronics with automotive as its emphasis. Students apply the principles of Ohm's law, circuit requirements, current flow voltage symbols, test meters, transistors, diodes, etc., relating to the automotive repair industry. Students recognize the importance of the electrical safety devices built into the motor vehicle and diagnoses and repairs electrical problems. Prerequisites: Non-Structural Analysis & Damage Repair I (31-405-352) or Safety & Pollution Prevention (S/P2) training/certification | | |
| 31-405-360 | Structural Analysis & Damage Repair I | 3 |
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| Credits: 3 Lecture Hours: 18 Lab Hours: 72 The student inspects damaged vehicle, analyzes damage, estimates repair cost manually and with a computer. The student uses mechanical and electronic measuring systems to diagnose damage to vehicle structure and repairs damage using proper equipment and safety procedures. Prerequisite: Non-structural Analysis & Damage Repair II (31-405-353) | | |
| 31-405-361 | Structural Analysis & Damage Repair II | 4 |
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| Credits: 4 Lecture Hours: 27 Lab Hours: 117 The student uses proper equipment and safety equipment to repair and replace damaged structural panels on unibody and full frame vehicles. Prerequisite: Non-structural Analysis & Damage Repair II (31-405-353) | | |
| 31-405-362 | Painting & Refinishing II | 3 |
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| Credits: 3 Lecture Hours: 20 Lab Hours: 88 The student uses personal safety equipment and shop safety equipment. The student mixes and applies various refinish products to a vehicle. The student sprays under coats, base colors, and clear coats. Prerequisite: Painting and Refinishing I (31-405-355) | | |
| 31-405-363 | Painting & Refinishing III | 3 |
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| Credits: 3 Lecture Hours: 20 Lab Hours: 88 The student uses personal safety equipment and shop safety equipment. The student inspects and analyzes paint defects, estimate refinish costs, formulate a repair procedure, tint colors, blend and apply colors to match an existing vehicle color. | | |
| 31-801-310 | Workplace Communication | 2 |
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| Credits: 2 Lecture Hours: 36 Lab Hours: 18 Students apply oral, written, listening, and non-verbal skills to workplace situations. Students discover how to use communication as the key to solving workplace problems, resolving conflicts, working as members of a team, and effectively giving and receiving criticism. Students develop an understanding of diversity in the workplace, harassment issues, and the impact of substance abuse on the job. Prerequisites: Communication 1 (73-851-710), or An undeclared major student. | | |
|  |  | **17** |
| **Summer**   (Tuition: $990) | | |
| **Course #** | **Course Title** | **Credits** |
| 31-404-311 | Automotive Mechanics for Auto Body Tech I | 3 |
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| Credits: 3 Lecture Hours: 20 Lab Hours: 80 Student evaluate, diagnose, and repair damage to automotive steering and suspension systems and braking systems as it applies to collision damage vehicles. Prerequisites: Non-Structural Analysis & Damage Repair I (31-405-352) or Safety & Pollution Prevention (S/P2) training/certification | | |
| 31-404-312 | Automotive Mechanics for Auto Body Tech II | 3 |
|  | | |
| Credits: 3 Lecture Hours: 20 Lab Hours: 80 Students evaluate, diagnose and repair damage to automotive cooling systems, air conditioning systems, and drive trains as it applies to collision damaged vehicles. Prerequisites: Non-Structural Analysis & Damage Repair I (31-405-352) or Safety & Pollution Prevention (S/P2) training/certification | | |
|  |  | **6** |
| **Total Credits: 40** | | |
| **Estimated Total Tuition: $7,980** | | |
| **Tools/Equipment: $200** (lease) | | |