

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title:** Introduction to Unibody and Frame Alignment and Repair

**Prefix and Course Number:** ABF 114

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**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

- practice the various precautions for personal safety
- maintain shop power equipment tools
- utilize basic welding equipment and tools
- repair minor damages using fillers and glazes

**Course Outline:**

- I. Body Shop Work and Safety Procedures
  - A. Typical Body Shop Operations
  - B. Personal Safety and Health Protection
  - C. General Shop Procedures
- II. Automobile Construction
  - A. Body Shapes
  - B. Construction Types
  - C. Conventional Body-over Frame Construction
  - D. Unitized Frame and Body Construction
- III. Applications of Body Shop Power Tools
  - A. Air-powered Tools
  - B. Other Pneumatic Body Shop Tools
  - C. Electric-powered Tools
  - D. Electric Power Tool Safety
  - E. Hydraulically-powered Shop Equipment
  - F. Power Jacks and Straightening Equipment
  - G. Hydraulic Tool Care
  - H. Hydraulic Lifts
- IV. Welding Equipment Applications
  - A. MIG Welding
  - B. MIG Welding Equipment
  - C. MIG Operation Methods
  - D. Welding Position
  - E. Basic Welding Techniques
  - F. MIG Welding Galvanized Metals
  - G. Testing with MIG Weld

- H. MIG Weld Defects
- I. TIG Welding
- J. Resistance Spot Welding
- K. Spot Welding Inspection
- L. Other Spot Welding Functions
- M. Stud Spot Welding for Dent Removal
- N. Mod Rivet Welding
- O. Oxyacetylene Welding Applications
- P. Brazing Applications
- Q. Soldering (Soft Brazing)
- R. Plasma ARC Cutting
- S. Welding Safety
- V. Applications of Basic auto Sheet Metal work
  - A. Automotive Sheet Metal
  - B. Classifying Body Damage
  - C. Metal Straightening Techniques
  - D. Metal-working Techniques
  - E. Unlocking Dents with Hammer and Dolly
  - F. Working Aluminum
- VI. Minor Auto Body Repairs
  - A. Body Fillers
  - B. Applying Plastic
  - C. Applying Lead Filler
  - D. Repairing Scratches
  - E. Repairing Dings
  - F. Repairing Rust Damage
  - G. Repairing Small Rust-outs
  - H. Repairing Large Rust-outs