



South Central College

ABCT 2850 Structural Repair

Course Outcome Summary

Course Information

Description	This course covers replacement, sectioning procedures and corrosion protection of frame, unibody and structural members and components. Wheel alignment as it applies during structural repair will be covered.
Total Credits	3
Total Hours	80

Types of Instruction

Instruction Type	Credits/Hours
Lecture	
Lab	

Pre/Corequisites

None

Institutional Core Competencies

Civic Engagement and Social Responsibility - Students will be able to demonstrate the ability to engage in the social responsibilities expected of a community member.

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

- The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives. [HP-I] designates an individual goal. [HP-G] designates a group goal.**
- Exhibit professionalism.**
- Comply with personal and environmental safety practices associated with clothing and the use of gloves; respiratory protection; eye protection; hand tools; power equipment; proper**

ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

4. [HP-I] Diagnose and measure structural damage using tram and self-centering gauges.
5. [HP-G] Straighten and align mash (collapse) damage.
6. [HP-G] Straighten and align sag damage.
7. [HP-G] Straighten and align sideways damage.
8. [HP-G] Straighten and align twist damage.
9. [HP-G] Straighten and align diamond frame damage.
10. [HP-G] Remove and replace damaged structural components.
11. [HP-I] Restore corrosion protection to repaired or replaced frame areas.
12. [HP-G] Align or replace misaligned or damaged steering, suspension, and powertrain components that can cause vibration, steering, and wheel alignment problems.
13. [HP-I] Identify heat limitations in structural components.
14. [HP-G] Restore structural foam.
15. [HP-G] Diagnose and measure structural damage using a universal measuring system (mechanical, electrical, laser).
16. [HP-G] Diagnose and measure structural damage to vehicles using a dedicated (fixture) measuring system.
17. [HP-G] Realign or replace misaligned or damaged steering, suspension, and powertrain components that can cause vibration, steering and chassis alignment problems.
18. [HP-I] Determine the extent of the direct and indirect damage and the direction of impact; plan and document the methods and sequence of repair.
19. [HP-I] Attach anchoring devices to vehicle; remove or reposition components as necessary.
20. [HP-G] Straighten and align cowl assembly.
21. [HP-G] Straighten and align roof rails/headers and roof panels.
22. [HP-G] Straighten and align hinge and lock pillars.
23. [HP-G] Straighten and align vehicle openings, floor pans, and rocker panels.
24. [HP-G] Straighten and align quarter panels, wheelhouse assemblies, and rear body sections (including rails and suspension/powertrain mounting points).
25. [HP-G] Straighten and align front-end sections (aprons, strut towers, upper and lower rails, steering, and suspension/power train mounting points, etc.).
26. [HP-I] Identify heat limitations in unibody vehicles.
27. [HP-I] Identify proper cold stress relief methods.
28. [HP-I] Repair damage using power tools and hand tools to restore proper contours and dimensions.
29. [HP-G] Remove and replace damaged sections of structural steel body panels.
30. [HP-I] Restore corrosion protection to repaired or replaced unibody structural areas.
31. [HP-G] Determine the extent of damage to aluminum structural components; repair, weld, or replace.
32. [HP-I] Analyze and identify crush/collapse zones.
33. Correct and verify wheel alignment.

34. Maintain O.E.M. specifications on all repairs.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.