

**Common Course Outline**  
**AUCR 101**  
**NON-STRUCTURAL ANALYSIS & REPAIR I**  
**5 Semester Hours**

**The Community College of Baltimore County**

**Description**

**AUCR 101-5Credits- NON-STRUCTURAL ANALYSIS & REPAIR I**

helps students develop a broad knowledge of shop and personal safety practices; and develops safe and healthy practices for themselves, their fellow workers and the environment. The course will also study the procedures for the removing, repairing, replacing, and adjusting of outer body panels; straightening and roughing out of damaged steel panels and preparing them for body filler; and the study of the special precautions needed to repair aluminum panels. Students will study the proper replacement of corrosion protection to the repaired panels and adjustment of panels for proper fit. The student will be introduced to the theory of cutting and welding of steel. The learning process will focus on group interaction, group activities, the study of the industry's best practices, and the application of assessment tools.

5 Credits: 3 Lecture hours per week; 6 Laboratory hours per week.

Prerequisite(s): AUCR 100

**Overall Course Objectives**

Upon completion of this course the student will be able to:

1. Grind paint from the damaged area of a body panel;
2. Locate surface irregularities on the damaged area of a body panel and reduce them with a pick file and disc sander;
3. Heat shrink stretched panel areas to proper contour;
4. Cold shrink stretched panel areas to proper contour;
5. Mix body filler;
6. Apply body filler; cheese-grate during curing;
7. Rough sand cured body filler to contour; finish sand;
8. Determine the extent of damage to aluminum body panels; repair, weld or replace in accordance with manufacturers' specifications;
9. Remove, replace, and align hood, hood hinges and hood latch;
10. Remove, replace and align deck lid, lid hinges and lid latch;
11. Comply with personal and environmental safety practices associated with clothing, eye protection, and use of chemicals, hand tools and power equipment;
12. Identify weldable and non-weldable materials used in auto body components; understand the limitations of welding and cutting high strength steels and other metals and

13. Determine correct welder type (MIG, resistance spot, oxy-acetylene, TIG), electrode, wire type diameter and gas to be used in specific welding situations.

### **Major Topics**

- I. Removing outer body panels
- II. Repairing outer body panels
- III. Replacing, and adjusting outer body panels
- IV. Straightening and roughing out of damaged steel panels
- V. Preparing outer body panels for body filler
- VI. The study of the special precautions needed to repair aluminum panels

### **Course Requirements**

**Grading/exams:** Grading procedures will be determined by the individual faculty member and will be provided on the first day of class. A student can expect a minimum of eight grades from the following categories:

1. Quizzes
2. Lab projects
3. Written paper
4. Homework assignments
5. Midterm exam
6. Class participation
7. Comprehensive final

**Writing:** The individual faculty member will determine specific writing assignments.

### **Other Course Information**

This course is a Collision repair core course.

This course is taught in a computerized environment.

This course is the first course in a required two-course sequence.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

(8) Date Revised: 04/11/05