# SOUTHEAST COMMUNITY COLLEGE
# TRANSPORTATION OCCUPATIONS
# AUTO COLLISION REPAIR TECHNOLOGY
# COURSE SYLLABUS
# January 8, 2024

## I. CATALOG DESCRIPTION

Course Number: AUTB2354
Course Title: Structural Repair Theory and Estimating
Prerequisite(s): AUTB 1254, AUTB 1256

Catalog Description: This course will cover the study of conventional frame and unitized body construction, body alignment, steering components and how it relates to frame and unitized body construction of modern-day vehicles. The proper identification of structural damages and measurement techniques will be covered. Methods of repair and operation of equipment. Including estimating principles and procedures of cost accounting, emphasis is based on present day business practices and operations of the automobile collision repair field. Safety is stressed at all times.

Credit Hour: 4.0
Classroom Hours: 45
Lab Hours: 45
Total Contact Hours: 90

## II. COURSE OBJECTIVES: *Course will:*

- **A.** Cover safety consciousness in each individual through the student's understanding of the equipment.
- **B.** Cover individual's awareness of the vast numbers of measuring systems and their place in the repair process.
- **C.** Cover the structural sectioning procedures that they will be utilizing during the repair process in accordance to manufacturers recommendations.
- **D.** Cover the mechanical measuring system, electronic measuring system, and suspension (alignment relationship to collision damaged vehicle).
- **E.** Cover terms used in the collision repair field.
- **F.** Cover content of the collision estimating guides.
- **G.** Cover handwritten damage report/estimate.
- **H.** Cover writing and translation of a computer-generated damage report/estimate.

## III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

### A. STUDENT LEARNING OUTCOMES: *The student will be able to:*

1. Work safely during all repairs through the student's understanding of the equipment.
2. The student will be able to explain and measure the 5 misalignment angels, (diamond, twist, sag, mash, and sway)
3. Identify the vast numbers of measuring systems and their place in the repair process.
4. Determine the structural measuring equipment that they will be utilizing during a typical repair.
5. Determine structural sectioning procedures that they will be utilizing during the repair process in accordance to manufacturers recommendations.
6. Determine how the structural damage will affect suspension alignment.

**B. GENERAL EDUCATION LEARNING OUTCOMES:**

**GELO #3: Critical Thinking & Problem Solving**

**Outcomes:**

1. Collect, identify, interpret and analyze data.
4. Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.

## IV. CONTENT/TOPICAL OUTLINE

- **A.** Course introduction
- **B.** Automotive construction
- **C.** Collision theory
- **D.** Gauging measuring and analyzing
- **E.** Anchoring concepts
- **F.** Steering and suspension alignment
- **G.** Shop safety
- **H.** Identify the vehicle
- **I.** Identify the damage
- **J.** Identify parts information
- **K.** Identify labor information
- **L.** Identify refinish information
- **M.** Selecting other parts/operations
- **N.** Calculating repair costs
- **O.** Computer assisted estimating

## V. INSTRUCTIONAL MATERIALS

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|---|---|
| **Required Text(s):** | Auto Body Repair Technology 6th Edition Text. Copyright 2015<br>ISBN-13: 978-1133702856, ISBN-10: 1133702856 |
| **Other Resources:** | Computer/multimedia projector<br>Videos/DVD<br>Tape measure<br>Conventional frame mockup<br>Unibody mockup damage<br>Simulator frame damage mockups<br>Self-centering gauges<br>Computerized measuring system |
| **Student Required Material:** | Notebook<br>Pen or pencil |
| **Outside Reading/Research Required:** | Chapters will be assigned according to the class schedule.<br>Research on state-of-the-art equipment or procedures as assigned by the instructor. |

## VI. METHODS OF PRESENTATION / INSTRUCTION

**A. Methods of presentation typically include a combination of the following:**

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Transparencies
5. Demonstrations
6. Project boards
7. Flip charts
8. Handouts
9. Observations
10. Assigned lab projects

11. Field trips
12. Lab projects

## VII. METHODS OF EVALUATION

**A. Methods of evaluation typically include a combination of the following:**

1. Notebook (if required)
2. Quizzes
3. Tests
4. Lab grades
5. Attendance/Class conduct

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** See course information document for specific details on how the course grades will be calculated.

## VIII. SPECIFIC COURSE REQUIREMENTS

**A. STUDENT MUST:**

1. Complete all tests, projects, assignments, and notebook (if required).
2. Earn a final grade of 60% or higher.

**B. ATTENDANCE:**

1. Students must follow the Attendance Policy as stated in the college student handbook and the Auto Collision Repair Technology Attendance Policy.

**C. PROGRAM SHOP SAFETY RULES WILL BE FOLLOWED.**

**D. PLEASE SEE THE COURSE INFORMATION DOCUMENT FOR ANY ADDITIONAL SAFETY RULES ESTABLISHED BY THE INSTRUCTOR.**