



Wayne County Community College District

COURSE SYLLABUS

ABT 105 Damage Analysis and Repair Estimating

CREDIT HOURS: 4.00

CONTACT HOURS: 60.00

COURSE DESCRIPTION:

This course provides students with exposure to damaged automobiles for the generation of collision analysis and the development of repair estimates. Damage assessment will lead to parts compilation and the calculation of final repair costs, including labor estimates. Additionally, effective and profitable auto body shop management will be discussed.

PREREQUISITES: ABT 101 and ABT 103

EXPECTED COMPETENCIES:

Upon completion of this course, the student will be familiar with:

1. Damage Analysis

- Position the vehicle for inspection.
- Prepare vehicle for inspection by providing access to damaged areas.
- Analyze damage to determine appropriate methods for overall repairs.
- Determine the direction, point(s) of impact, and extent of direct, indirect, and inertia damage.
- Gather details of the incident/accident necessary to determine the full extent of vehicle damage.
- Identify and record pre-existing damage.
- Identify and record prior repairs.
- Perform visual inspection of structural components and members.
- Identify structural damage using measuring tools and equipment.
- Perform visual inspection of non-structural components and members.
- Determine parts, components, material type(s) and procedures necessary for a proper repair.
- Identify type and condition of finish; determine if refinishing is required.
- Identify suspension, electrical, and mechanical component physical damage.
- Identify safety systems physical damage.
- Identify interior component damage.
- Identify damage to add-on accessories and modifications.
- Identify single (one time) use components.

2.

- Determine and record customer/vehicle owner information.
- Identify and record vehicle identification number (VIN) information, including nation of origin, make, model, restraint system, body type, production date, engine type, and assembly plant.
- Identify and record vehicle options, including trim level, paint code, transmission, accessories, and modifications.
- Identify safety systems; determine replacement items.
- Apply appropriate estimating and parts nomenclature (terminology).
- Determine and apply appropriate estimating sequence.



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- Utilize estimating guide procedure pages.
 - Apply estimating guide footnotes and headnotes as needed.
 - Estimate labor value for operations requiring judgment.
 - Select appropriate labor value for each operation (structural, non-structural, mechanical, and refinish).
 - Select and price OEM parts; verify availability, compatibility, and condition.
 - Select and price alternative/optional OEM parts; verify availability, compatibility and condition.
 - Select and price aftermarket parts; verify availability, compatibility, and condition.
 - Select and price recyclable/used parts; verify availability, compatibility and condition.
 - Select and price remanufactured, rebuilt, and reconditioned parts; verify availability, compatibility and condition.
 - Determine price and source of necessary sublet operations.
 - Determine labor value, prices, charges, allowances, or fees for non-included operations and miscellaneous items.
 - Recognize and apply overlap deductions, included operations, and additions.
 - Determine additional material and charges.
 - Determine refinishing material and charges.
 - Apply math skills to establish charges and totals.
 - Interpret computer-assisted and manually written estimates; verify the information is current.
 - Identify procedural differences between computer-assisted systems and manually written estimates.
 - Identify procedures to restore corrosion protection; establish labor values, and material charges.
 - Determine the cost effectiveness of the repair and determine the approximate vehicle retail, and repair value.
 - Recognize the differences in estimation procedures when using different information provider systems.
 - Verify accuracy of estimate compared to the actual repair and replacement operations.
3. Vehicle Construction and Parts Identification
- Identify type of vehicle construction (space frame, unibody, body-over-frame).
 - Recognize the different damage characteristics of space frame, unibody, and body-over-frame vehicles.
 - Identify impact energy absorbing components.
 - Identify steel types; determine repairability.
 - Identify aluminum/magnesium components; determine repairability.
 - Identify plastic/composite components; determine repairability.
 - Identify vehicle glass components and repair/replacement procedures.
 - Identify add-on accessories.
4. Customer Relations and Sales Skills – Some skills revisited from ABT 101
- Acknowledge and/or greet customer/client.
 - Listen to customer/client; collect information and identify customers/client's concerns, needs and expectations.
 - Establish cooperative attitude with customer/client.
 - Identify yourself to customer/client; offer assistance.
 - Deal with angry customer/client
 - Identify customer/client preferred communication method; follow up to keep customer/client informed about parts and the repair process.
 - Recognize basic claims handling procedures; explain to customer/client.



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- Project positive attitude and professional appearance.
- Provide and review warranty information.
- Provide and review technical and consumer protection information.
- Estimate and explain duration of out-of-service time.
- Apply negotiation skills to obtain a mutual agreement.
- Interpret and explain manual or computer-assisted estimate to customer/client.

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100%	=	A
80%-89.9%	=	B
70%-79.9%	=	C
60%-69.9%	=	D
<60%	=	E