COURSE NUMBER & TITLE: ASES 1011: Steering and Suspension
CREDITS: 4 (1 Lec / 3 Lab)
PREREQUISITES: None

CATALOG DESCRIPTION:
Steering and Suspension covers the complete suspension and steering system. This includes theory of operation and service of the many different types of steering and suspension systems. Also, the theory of wheel alignment, prealignment inspection, alignment and correction of vehicle problems are covered.

OUTLINE OF MAJOR CONTENT AREAS:
1. Suspension systems
   A. Components
   B. Inspection
   C. Service
2. Steering systems
   A. Manual steering
   B. Power steering
   C. Diagnosis and service
3. Wheel alignment
   A. Theory
   B. Diagnosis
   C. Two-wheel alignment procedures
   D. Four-wheel alignment procedures
   E. Supplemental restraint procedures

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will flush, fill, and bleed power steering system.
2. Students will inspect for power steering fluid leakage; determine necessary action.
3. Students will inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.
4. Students will diagnose short and long arm suspension system noises, body sway, and uneven ride height concerns; determine necessary action.
5. Students will diagnose strut suspension system noises, body sway, and uneven ride height concerns; determine necessary action.
6. Students will remove, inspect, and service or replace front and rear wheel bearings.
7. Students will prepare vehicle for wheel alignment on alignment machine; perform four-wheel alignment by checking and adjusting front and rear wheel caster, camber and toe as required; center steering wheel.
8. Students will diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.
MNTC GOALS AND COMPETENCIES MET: N/A

HCC COMPETENCIES MET:
Working Productively and Cooperatively
Communicating Clearly and Effectively

STUDENT CONTRIBUTIONS:
A. Be present—if you’re not here you can’t get paid.
B. Participate—you will get out what you are willing to put in.
C. Work safe—it’s hard to fix cars if you cut off your fingers.
D. Take care of yourself—your body is your most valuable tool.
E. Keep your driver’s license—techs without good driving records don’t have jobs.
F. Think outside of the box—there is always a way.
G. Be a Professional—act like it, look like it, smell like it.
H. Communicate—nobody gets fired by asking for help

ADDITIONAL INFORMATION:
-Handouts and other materials will be provided in class.
-Factory and aftermarket service manuals will be used for reference.
-Hazardous Waste Policy: proper handling practices will be used.
-Safety Eyeglass Policy: safety glasses will be worn at all time while working in the labs.
-Shop Safety Policy: safe shop working practices must be followed.

Violations of the above policies will be verbal or documented warnings and will be handled on a case-by-case basis.

METHODS FOR EVALUATING STUDENT LEARNING:
Student assessment shall take place using instruments selected/developed by the course instructor.

Curriculum Committee Approval Date: December 4, 2018

AASC APPROVAL DATE: December 19, 2018
REVIEW DATE: December 2023