Automotive Suspension and Steering Systems

Southern Illinois University Automotive Technology


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http://www.IATN.NET/ http://brakes.siuc.edu/ Collard’s Site

Instructor’s goal is to provide a safe learning environment without students feeling intimidated; to encourage punctuality and responsibility.

Meeting Time: 1:00 – 4:50 pm M-T- TR-F

Keep Wednesdays open

Tuesday, January 19, - Fri. February 19

Class Location
Laboratory: Service Lab 3
Classroom: Tec 174

Office Hours 10:00 am-12:00 pm

Excused Absence for religious holidays –
Students absent from classes because of required observances of major religious holidays will be excused. It is the student’s responsibility to notify in advance the instructor of each class that will be missed. Students must also take the responsibility for making up work missed.
Safety Glasses must be properly worn in the lab at all times

Course Description:
Course covers suspension and steering system design, operation, maintenance and diagnosis. Emphasis is placed on component diagnosis and maintenance procedures. Laboratory experience provides students the opportunity to use computerized alignment, wheel balance and vibration correction equipment.

Course Objectives:
1. The course will provide the student with an opportunity to learn the theory of operation, diagnostic techniques, and related service activities required on current production brakes, steering and suspension systems.
2. The course will provide the student with the opportunity to acquire and develop skills in the service of brakes, steering and suspension systems.

Grading

*It is very important that each assignment be turned in and on time.

The total points a student acquires at the end of the class will determine the final class grade. Points accumulated by the student will be the product of their quizzes, tests, exams, presentation, and competency-based laboratory project(s) illustrating the skill level of the student. Student accumulated points are divided by the total number of class points possible to present a percentage score. Deductions for attendance/participation are then taken. This final score is then compared to the grade chart for a class grade.

Students will be notified beforehand, for preparation time, to the scheduling of test and exams. Tests or exams will be administered following unit completion or as needed according to class progress. Unless prior arrangements have been made with the instructor, any missed test or exam must be made up on the first day following the absence in which you return to class outside of class time. Makeup work will be penalized a five percent (5%) deduction. Quizzes or given at the instructor’s discretion and cannot be made up. Participation in class discussions and enthusiasm in laboratory work will affect borderline grade situations. Students will be expected to observe all program and shop regulations and participate in maintaining a clean and safe work environment.

Scholastic standards:

A = 100-93%  D = 76-70%
B = 92-85%  F = 69 and below
C = 84-77%

Attendance Policy

Attendance is required as part of the class grade. Attendance will be taken at the beginning of each class. To change an absence to a tardy, it is the student’s responsibility to notify the instructor, during break time or after class, that they are present.

The Automotive Department’s attendance policy will be implemented as follows:
• Each absence will result in a 2.5% reduction in the student’s grade.
• Being late for class three (3) times will equal one (1) absence.
• Excessive absences may lead the student to a conference with the Chairperson of the Department of Automotive Technology before rejoining his/her class.
Required Student Materials
2. A three (3) ring binder.
3. Toolbox with tools as per listed for enrollment into the automotive program. (A list may be obtained at the administration office.) Your name must be on the tool box
4. Safety glasses.
5. Shop towels. (School bathroom towels are not to be used in the laboratory.)

Note – Please notify the instructor as soon as possibly of any disability or medical condition that may require additional assistance.

Career Services - Career Services Specialist

Woody Hall B-204  Phone  453-1040

Special Dates to Remember:

____________________________________________________________________________________________
____________________________________________________________________________________________

Emergency Procedures:

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on the BERT’s website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Public Safety’s website [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.
January 19th  Week One  AUT 216 Syllabus

Safety is Number One,  Safety glasses must be properly worn in the lab

Introduction.  Assignments,  Safety,  Emergency phone numbers

Shop introduction, Locate all safety devices and fire extinguishers, Equipment Care, Wheel Lug Nut Torque, Battery Safety and Care, Charging Precautions, Lifts, Floor Jacks, Tire Balancer and Rotation and proper inflation, Unlocked Steering Wheel, CHMSL Lamp, Compressed Air, Brake Fluid, Exhaust and Asbestos Concerns and Disposal, Axial, Radial movement, Dial Indicator Use, Wheel bearings, Chassis Lubrication Points.  Chassis Design, Suspension Types introduction,  SLA and MacPherson Strut, Diagnosing Ball Joint Movement

January 25th  Week Two

Alignment introduction.  Caster, Camber, Toe

*Alignment types:  1.Thrust Alignment  2. Four Wheel Alignment Alignment, Thrust Line and Thrust angle, Geometric Centerline Alignment, Set back, sagged steering linkage

Alignment Adjustments.  Hunter Alignment operation

February 1st  Week Three

Tire mounting, balance, sidewall information

Alignment problem causes, Lead, Pull, Drift

Rear Alignment Procedures, Alignment, SAI, Included angle

February 8th  Week Four

Steering Systems, Steering Gear, Sector Lash Adjustment and use of a Pitman arm puller

February 15th  Week Five

Power Rack & Pinion. Backlash adjustment

Vibration Correction- static, dynamic, first order

Tire Balance considering road force variation, TREAD Act- Transportation

Recall Enhancement, Accountability and Documentation, 9-2007
Syllabus Attachment

Fall 2014

Important Dates *

Semester Class Begins: .......................... 08/18/2014
Last day to add a class (without instructor permission):.. 08/24/2014
Last day to withdraw completely and receive a 100% refund: 08/21/2014
Last day to drop a course using SalukiNet: .................. 10/16/2014
Last day to file diploma application (for name to appear in Commencement program): .......................... 10/31/2014

Final Examinations: ................................ 12/8-12/12/2014

Note: For Hawthorne, Intern, and short course drop/add dates, visit Registrar’s Academic webpage: http://Registrar.siu.edu

Fall Semester Holidays

Labor Day 09/01/2014
Fall Break 10/11-10/14/2014
Veteran’s Day 11/11/2014
Thanksgiving Vacation 11/26-11/30/2014

Withdrawal Policy – Undergraduate Only

Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://Registrar.siu.edu/pdf/curriculum/catalog/2014.pdf

Incomplete Policy – Undergraduate Only

An Incomplete is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An incomplete must be changed to a completed grade within one semester following the term in which the course was taken, or graduate, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than one year after the end of the semester following the term in which the course was taken, or graduate, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student’s grade point average. For more information please visit: http://Registrar.siu.edu/grades/incomplete.html

Repeat Policy

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A, B, C, D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at http://Registrar.siu.edu/pdf/curriculum/catalog/2014.pdf

Graduate Policies

Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit http://gradschool.siu.edu/undergraduate-catalog/index.html

Disability Policy

Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements. http://disabilityservices.siu.edu/

Plagiarism Code


Saluki Cares

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For information on Saluki Cares: (618) 453-5714, or sicares@siu.edu, http://salukicare.siu.edu/index.html

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Inclusive Excellence

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: http://www.inclusivexcellence.siu.edu/

Morris Library Hours

http://www.lib.siu.edu/about

Learning and Support Services

Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website: Tutoring: http://tutoring.siu.edu/ Math Labs: http://tutoring.siu.edu/math_tutoring/index.html

Writing Center

The Writing Center offers free writing services to all SIU students and faculty. To find a Center or Schedule an appointment please visit: http://write.siu.edu/

Affirmative Action & Equal Opportunity

Our office's main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit: http://diversity.siu.edu/

Additional Resources Available:
Salukinet: https://salukinet.siu.edu/portal/home/displaylogin

Advisement: http://advisement.siu.edu/