ATL 101 Course Outline as of Fall 2024

CATALOG INFORMATION

Dept and Nbr: ATL 101 Title: TRANSPORT INFO
Full Title: Transportation Information Systems and Shop Practices
Last Reviewed: 12/4/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Students will explore Transportation Information Systems and mobile networks, specialized internal communications network (BUS), diagnostic tools, service information lookup and application, use of basic tools and safety procedures relating to advanced transportation and the advanced transportation repair technician. Topics include careers, employability skills, workplace practices, safety, personal protection, BUS and Data systems for the entry level transportation maintenance technician. Students will be introduced to internal combustion engines: gasoline, diesel, and hydrogen; electric power and alternative fuels; automotive technology; medium and heavy duty trucks; public transportation; agricultural and construction equipment.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 1A or equivalent and eligibility for MATH 25 or equivalent

Limits on Enrollment:

Schedule of Classes Information:

Description: Students will explore Transportation Information Systems and mobile networks, specialized internal communications network (BUS), diagnostic tools, service information lookup and application, use of basic tools and safety procedures relating to advanced transportation and the advanced transportation repair technician. Topics include careers, employability skills, workplace practices, safety, personal protection, BUS and Data systems for the entry level transportation maintenance technician. Students will be introduced to internal combustion engines: gasoline, diesel, and hydrogen; electric power and alternative fuels; automotive technology; medium and heavy duty trucks; public transportation; agricultural and construction equipment. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 1A or equivalent and eligibility for MATH 25 or equivalent
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Demonstrate the correct use of safety procedures utilized by a mobile equipment repair technician
2. Locate and interpret technical manuals from online computerized databases
3. Demonstrate the appropriate use and maintenance of hand, shop, and precision tools

Objectives:
At the conclusion of this course, the student should be able to:
1. Describe the general layout and function of agricultural, construction, light and heavy-duty vehicles, and public transportation equipment components.
2. Summarize general and specific industrial shop safety standards for a repair shop setting.
3. Demonstrate the appropriate use and maintenance of hand, shop, and precision tools.
4. Correctly identify fasteners and evaluate appropriate use for each type.
5. Adequately retrieve and interpret vehicle data, including on-line technical manuals and computerized shop management programs.
6. Describe the environmental issues and choose appropriate procedures for the disposal of

hazardous materials.
7. Discuss the mobile equipment repair industry career field and employment opportunities.

Topics and Scope:

I. Introduction to Advanced Transportation
II. Information Systems
III. Vehicle BUS
  A. Controller Area Network (CAN)
  B. Local Interconnect Network (LIN)
  C. Ethernet Consist Network (ECN)
IV. Service Information
V. Diagnostic Tools for Data Acquisition
VI. Career Information
  A. Careers in the advanced transportation industry
  B. Starting a career in the advanced transportation industry
  C. Working as a professional service technician
    1. wages, salaries, and benefits
    2. local and regional opportunities
    3. shop expectations, practices, and routines
  D. Technician certification
VII. Shop Safety Standards and Practices
  A. Fire and disaster procedures
  B. Cleanliness and order in the workplace
  C. Emergency prevention and intervention practices
  D. Proper lifting procedures
  E. Personal safety practices
  F. Environmental health and safety compliance, including hazards
VIII. Use and Maintenance of Hand, Shop, and Precision Tools
  A. Precision measuring tools
  B. Precision torque tools
  C. Hand and shop tools
  D. Tool and equipment maintenance
  E. Hoisting, rigging, and slings
IX. Fasteners and Mechanical Fitting Devices
  A. Appropriate fastener use
  B. Fastening techniques
  C. Fitting application
  D. General torque specifications
X. Bearings, Seals, Lubricants, Gaskets, and Sealants

All topics are covered in both the lecture and lab parts of the course.

Assignment:

Lecture-Related Assignments:
1. Weekly reading (10-50 pages)
2. Worksheets from reading assignments
3. Notebook with handouts and class notes if assigned by instructor
4. Tests and final exam

Lab-Related Assignments:

1. Lab assignments and worksheets

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Worksheets from reading assignments	Problem solving 20 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Lab assignments and worksheets	Skill Demonstrations 10 - 20%

Exams: All forms of formal testing, other than skill performance exams.

Tests and final exam	Exams 40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

Notebook	Other Category 0 - 10%

Representative Textbooks and Materials:
Fundamentals of Automotive Technology. 3rd ed. VanGelder, Kirk. Jones and Bartlett. 2023.
Fundamentals of Medium/Heavy Duty Commercial Vehicle Systems. 2nd Ed. Duffy, Owen and Wright, Gus. Jones and Bartlett. 2020.
Instructor prepared materials