

**STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK**



MASTER SYLLABUS

**COURSE NUMBER – COURSE NAME
AUTO 101 – AUTOMOTIVE SERVICE**

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Canino School of Engineering Technology

Department: Automotive Technology Program

Semester/Year: Fall 2018

- A. **TITLE:** Automotive Service
- B. **COURSE NUMBER:** AUTO 101
- C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

Credit Hours: 2
Lecture Hours: 2 per week
Lab Hours: per week
 Other: per week

Course Length: 15 Weeks

- D. **WRITING INTENSIVE COURSE:** Yes No
- E. **GER CATEGORY:** None: Yes: GER !
If course satisfies more than one: GER !
- F. **SEMESTER(S) OFFERED:** Fall Spring Fall & Spring

G. **COURSE DESCRIPTION:**

Automotive Service is an introductory course in vehicle systems theory of operation and maintenance. Topics include automotive shop procedures involved in general maintenance of vehicles related to engine, suspension, and driveline. Safety and customer relations skills will also be stressed. Students who have successfully completed a high school vocational program in Automotive Mechanics/Technology may be eligible for transfer credit.

- H. **PRE-REQUISITES:** None Yes If yes, list below:

CO-REQUISITES: None Yes If yes, list below:

AUTO 111- Automotive Service Laboratory

I. STUDENT LEARNING OUTCOMES: (see key below)

By the end of this course, the student will be able to:

<u>Course Student Learning Outcome</u> <u>[SLO]</u>	<u>Program Student Learning Outcome</u> <u>[PSLO]</u>	<u>GER</u> <i>[If Applicable]</i>	<u>ISLO & SUBSETS</u>	
Identify shop and laboratory safety	ALO4	N/A	2-Crit Think 5-Ind, Prof, Disc, Know Skills ISLO	CA IA PS Subsets
Identify tools and equipment necessary to perform vehicle service	ALO2, ALO3, ALO4	N/A	2-Crit Think 3-Found Skills 5-Ind, Prof, Disc, Know Skills	CA IA IM QTR
Use of service literature to perform vehicle service	ALO2, ALO3	N/A	1-Comm Skills 2-Crit Think 5-Ind, Prof, Disc, Know Skills	W IA PS IM
Describe fundamentals of engine operation and chassis service	ALO1, ALO3	N/A	1-Comm Skills 2-Crit Think 5-Ind, Prof, Disc, Know Skills	W IA IM Subsets
List steps necessary to perform a vehicle inspection	ALO1	N/A	2-Crit Think 5-Ind, Prof, Disc, Know Skills ISLO	CA IA PS Subsets
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KEY	<u>Institutional Student Learning Outcomes [ISLO 1 – 5]</u>
ISLO #	ISLO & Subsets
1	Communication Skills Oral [O], Written [W]
2	Critical Thinking <i>Critical Analysis [CA] , Inquiry & Analysis [IA] , Problem Solving [PS]</i>
3	Foundational Skills <i>Information Management [IM], Quantitative Lit./Reasoning [QTR]</i>
4	Social Responsibility <i>Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</i>
5	Industry, Professional, Discipline Specific Knowledge and Skills

*Include program objectives if applicable. Please consult with Program Coordinator !

J. **APPLIED LEARNING COMPONENT:** Yes No

If YES, select one or more of the following categories:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Classroom/Lab | <input type="checkbox"/> Civic Engagement |
| <input type="checkbox"/> Internship | <input type="checkbox"/> Creative Works/Senior Project |
| <input type="checkbox"/> Clinical Placement | <input type="checkbox"/> Research |
| <input type="checkbox"/> Practicum | <input type="checkbox"/> Entrepreneurship |
| <input type="checkbox"/> Service Learning | (program, class, project) |
| <input type="checkbox"/> Community Service | |

K. **TEXTS:**

VanGelder,K.T.(2018). Automotive Technology: Principles and Practice 2nd Edition.Vancouver:Jones & Barlett Learning.

L. **REFERENCES:**

All Data, Manufacturer's Service Manuals, www.sp2.org. , Shop Manuals, Mitchell Manuals, General Motors EST, ShopKeyPro

M. **EQUIPMENT:** None **Needed:** University supplied equipment, such as overhead, blackboard and white board. Technically enhanced classroom.

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Assignments

Final

Midterm

Participation

Quizzes

P. **DETAILED COURSE OUTLINE:**

I. Introduction

A. Policies/Procedures

B. Safety

C. Vehicle lifting-support equipment/safety

D. Work-orders, Supporting Documentation

E. Right to Know, Hazardous material Handling Safety

II. Service Literature

A. Manuals

B. Service Bulletins

C. Trade Journals

D. All-Data (Electronic Format)

E. Vehicle Identification

III. Fasteners

- A. Metric**
- B. English**
- C. Torque**
- D. Nomenclature Safety**
- E. Chemicals**

IV. Tools

- A. Identification**
- B. Proper use**

V. Fundamentals of Engine Operation

A. Basic Theory of Operation/Parts Identification

- 1. 2-Cycle**
- 2. 4--Cycle**

B. Engine Operating Requirments/ Parameters

- 1. Air/Fuel Ratio**
- 2. Ignition**
- 3. Compression/Testing**
- 4. Load/Vacuum**
- 5. Combustion Process**
- 6. Emission Standards**
- 7. Fuels**
- 8. Firing Order**

C. Engine Systems Overview

- 1. Lubrication**
- 2. Cooling**
- 3. Fuel Delivery**
- 4. Basic Ignition**
- 5. Exhaust**

VI. Chassis and Body Fundamentals

- A. Tires and Wheels**
- B. Steering**
- C. Suspension**
- D. Drivetrain**
- E. Brakes**
- F. Electrical**

VIII. Automotive Business and Operation

- A. Dealership Organization**
- B. Other Automotive-Related Businesses**
- C. Customer Relations**
- D. Employer Expectations**
- E. Creating Repair Estimates**

Q. **LABORATORY OUTLINE:** None Yes