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

COURSE OUTLINE
AUTO 101 - AUTOMOTIVE SERVICE

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CANINO SCHOOL OF ENGINEERING TECHNOLOGY
AUTOMOTIVE TECHNOLOGY PROGRAM
November 2015
A. **TITLE:** AUTOMOTIVE SERVICE

B. **COURSE NUMBER:** AUTO 101

C. **CREDIT HOURS:** 2

D. **WRITING INTENSIVE COURSE:** NO

E. **WEEKS PER SEMESTER:** 15 weeks

F. **SEMESTER(S) OFFERED:** Fall

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**
   Two – 50-min lectures per week for 15 weeks.

H. **CATALOG 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.

I. **PRE-REQUISITES/CO-REQUISITES:**
   a. Pre-requisite(s): NONE
   b. Co-requisite(s): AUTO 111

J. **GOALS (STUDENT LEARNING OUTCOMES):**
   By the end of this course, the student will:

<table>
<thead>
<tr>
<th>Course Objective</th>
<th>Institutional SLO</th>
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<tbody>
<tr>
<td>Identify shop and laboratory safety</td>
<td>SLO-2: Critical Thinking Skills</td>
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<td>SLO-3: Professional Competence</td>
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<tr>
<td>Identify tools and equipment necessary to perform vehicle service</td>
<td>SLO-2: Critical Thinking Skills</td>
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<td>SLO-3: Professional Competence</td>
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<tr>
<td>Use service literature to perform vehicle service</td>
<td>SLO-1: Communications Skills</td>
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<td>SLO-2: Critical Thinking Skills</td>
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<td>SLO-3: Professional Competence</td>
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<tr>
<td>Describe fundamentals of engine operation and chassis service</td>
<td>SLO-1: Communications Skills</td>
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<td>SLO-2: Critical Thinking Skills</td>
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<tr>
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<td>SLO-3: Professional Competence</td>
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<tr>
<td>List steps necessary to perform a vehicle inspection</td>
<td>SLO-2: Critical Thinking Skills</td>
</tr>
<tr>
<td></td>
<td>SLO-3: Professional Competence</td>
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SLO-1: Communications Skills
SLO-2: Critical Thinking Skills
SLO-3: Professional Competence
SLO-4: Inter/Intrapersonal Skills

L. REFERENCES: All data, Manufacturer’s service manuals, www.sp2.org

M. EQUIPMENT: Technically enhanced classroom

N. GRADING METHOD: A - F

O. EVALUATION CRITERIA/METHODS: Test, quizzes, homework, and class participation.

P. DETAILED TOPICAL OUTLINE:

I. Introduction
   A. Policies/Procedures
   B. Safety
   C. Vehicle lifting - support equipment/safety
   D. Work-orders; supporting documentation
   E. Right to know, hazardous/toxic 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 Requirements/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 Career Development
   A. Career Days

IX. Automotive Business and Organization
   A. Dealership organization
   B. Other auto-related businesses
   C. Customer relations
   D. Employer expectations
   E. Creating repair estimates

Q. LABORATORY OUTLINE: None