COURSE OUTLINE
AUTO 102 – Diesel Engines

Prepared By: Issac R. Thomas
Revised By: Kenneth Wurster

CANINO SCHOOL OF ENGINEERING TECHNOLOGY
AUTOMOTIVE TECHNOLOGY DEPARTMENT
November 2015
A. **TITLE:** Diesel Engines

B. **COURSE NUMBER:** Auto 102

C. **CREDIT HOURS:** 2

D. **WRITING INTENSIVE COURSE:** NO

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

F. **SEMESTER(S) OFFERED:** Spring of even numbered years

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**
   1 - 50 min lectures per week, 1-110 min lab per week

H. **CATALOG DESCRIPTION:** A course which considers the basic construction of the diesel engine. Topics will include classification of diesel engines, fuels, turbochargers, injection systems, and pre-heater systems. Laboratory will consist of hands-on experience in engine troubleshooting, parts identification, adjustments and testing.

I. **PRE-REQUISITES/CO-REQUISITES:**
   a. Pre-requisite(s): AUTO 101 and AUTO 111 or MSPT 101
   b. Co-requisite(s): NONE

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>demonstrate shop laboratory safety</td>
<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>demonstrate skills necessary to perform diesel engine 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 diesel engine disassembly, inspection and reassembly</td>
<td>SLO-1: Communications Skills</td>
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<tr>
<td></td>
<td>SLO-2: Critical Thinking Skills</td>
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<td>SLO-3: Professional Competence</td>
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<tr>
<td>explain fundamentals of diesel engine fuel system operation</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>demonstrate skills necessary to maintain, diagnose diesel engine fuel systems</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, IATN

M. **EQUIPMENT:** Technically enhanced classroom
N. **GRADING METHOD:** A - F

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

P. **DETAILED TOPICAL OUTLINE:**

1. Introduction
2. Service Information
3. Special diesel engine service tools
4. Diesel engine service safety and environmental concerns
5. Diesel engine components
6. Diesel engine lubrication system
7. Diesel engine cooling system
8. Diesel engine breathing system
9. Diesel engine retarder system
10. Diesel engine overhaul
11. Diesel engine fuel system
12. Engine management electronics
13. Emissions