

# Los Angeles Trade-Technical College

## NON-CREDIT COURSE OUTLINE

### SECTION I - BASIC COURSE INFORMATION

DATE: 06/10/17

SELECT ONE:  New Course  Course Update  Course Change  Course Reinstate

DEPARTMENT NAME AND NUMBER: Noncredit (Advanced Transportation and Manufacturing)

SUBJECT/DISCIPLINE NAME (CB01): VOC ED

COURSE NUMBER: 326CE

COURSE TITLE (CB02): Automotive Diagnostics and Repair  
Max 68 characters including punctuation and spaces

**COURSE CATALOG DESCRIPTION** -- Provide a brief description of the course, including an overview of the topics covered:

Checklist:

- Course number and title
- Status (noncredit versus credit or others)
- A content/objective description, a short paragraph (course description) that provides a well-developed overview of topics covered. It should be thorough enough to establish the comparability of the course to those at other colleges and to convey the role of the course in the curriculum as well as to distinguish it from other courses at the college. It should be brief enough to encourage a quick read. To save space, many colleges use phrases rather than complete sentences. For noncredit courses that may lead to credit courses, it is a good idea to consider the catalog descriptions for the common receiving programs or institutions to promote a logical pathway for students intending this route.
- Course type (lecture, lab, activity, special topics, etc.), and contact hours
- Fulfills a certificate of completion, competency or high school graduation requirements
- Ability to articulate or prepare for credit coursework

This is a preparation course combining lecture and hands-on shop work for major automotive systems. Emphasis on automotive diagnostics and remedial maintenance and repair.

### JUSTIFICATION/NEEDS & PURPOSE OF COURSE:

Enter a brief description of the background and rationale for the course. This might include a description of a degree or certificate for which the course is required or the relationship of this course to other courses in the same or other disciplines. Please note that a justification stating "student need" will not suffice.

This entry level course provides an overview of automotive systems, use of diagnostic equipment and practices with an emphasis on manufacturer repair procedures that support students for moving into the Automotive and Related Technology certification.

### References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195  
ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008  
05/04/17

**CLASS HOURS:** Under "total hours per term," indicate the total number of hours the average student will need to complete the course objectives in section II. To determine the number of standard hours per week, divide the total hours by 18.

	Total Hours per term	Standard Hours per week (total hours per term divided by 18 weeks)
Lecture hours:	54	3
Lab hours:	54	3
Total hours:	108	6

**REPEATABILITY** (Number of times the course can be repeated): \_\_\_\_\_

How does the repetition of this course meet Title 5, section 58161 requirements? A course may be repeatable when, "course content differs each time it is offered, and that the student who repeats it is gaining an expanded educational experience for one of the following reasons: (A) Skills or proficiencies are enhanced by supervised repetition and practice within class periods; or (B) Active participatory experience in individual study or group assignments is the basic means by which learning objectives are obtained."

**LIMITATIONS ON ENROLLMENT** (see Title 5, section 58106 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

n/a

**TOP CODE** (CB03): 0948.00

**Category/TOP Code:** (\* denotes a Valid Top Code that is also in alignment with the Basic Skills Initiative (BSI) definition of a basic skills course)

- English as a Second Language (ESL): 493084\*, 493085\*, 493086\*, 493087\*, 493100\*
- Immigrant Education: 220120, 220500, 220700, 493090\*
- Elementary and Secondary Basic Skills: 150100\*, 152000\*, 170100\*, 170200, 493009\*, 493014, 493030, 493031, 493032, 493033, 493060\*
- Health & Safety: 083510, 083570, 083580, 083700, 089900, 129900
- Substantial Disabilities: ANY TOP Code
- Parenting: 130500-130590, 130800
- Home Economics: 130100-139900
- Courses for Older Adults: ANY TOP Code
- Short-Term Vocational: ANY VOCATIONAL TOP Code
- Workforce Preparation: ANY VOCATIONAL TOP Code or 493010, 493011, 493012, 493013, 493072

**TRANSFER STATUS** (CB05):

Other than English, writing, ESL, reading and mathematics courses, most noncredit courses are C (Not transferable)

- A (Transferable to both UC and CSU)    
 Transferable to CSU only    
 C (Not transferable)

**PRIOR TRANSFER LEVEL (CB21):**

This element indicates course level status for English, writing, ESL, reading and mathematics courses.

- Y (Not applicable)
- A (One level below transfer)                       B (Two levels below transfer)
- C (Three levels below transfer)                       D (Four levels below transfer)
- E (Five levels below transfer)                       F (Six levels below transfer)
- G (Seven levels below transfer)                       H (Eight levels below transfer).

**Student Accountability Model (SAM) Code (CB09):**

- A – Apprenticeship                       B - Advanced Occupational                       C - Clearly Occupational
- D – Possibly Occupational                       E- Non-occupational

**SAM Code:**

- A - Apprenticeship: Courses designed for an indentured apprentice, which must have the approval of the State of California, Department of Industrial Relations, Division of Apprenticeship Standards.
- B - Advanced Occupational: Courses taken by students in the advanced stages of their occupational programs. Courses should be offered in one specific occupational area.
- C - Clearly Occupational: Courses generally taken by students in the middle stages of their programs, which should be of difficulty level sufficient to detract "drop-ins." Courses may be offered in several occupational programs within a broad area. The "C" priority, however, should also be used for courses within a specific program area when the criteria for "B" classification are not met. A "C" level course should provide the student with entry-level job skills.
- D – Possibly Occupational: "D" courses are those taken by students in the beginning stages of their occupational programs. The "D" priority can also be used for service (or survey) courses for other occupational Programs.
- E- Non-occupational.

**BASIC SKILLS STATUS (CB08):**

Title 5, section 55502(d) defines "basic skills as "courses in reading, writing, computation, and English as a Second Language which are designated as non-degree credit courses pursuant to Title 5, section 55002(b)."

- Basic Skills Course                       Not a Basic Skills Course

**COURSE CLASSIFICATION STATUS (CB11):**

This field identifies courses eligible for enhanced funding. Noncredit courses will have a value of J or K if they are part of an approved Career Development and College Preparation (CDCP) program. Noncredit courses that are not part of an approved program will have a value of L until the program is approved.

- J -Workforce Preparation Enhanced Funding
- K - Other Noncredit Enhanced Funding
- L - Non-Enhanced Funding

**NONCREDIT CATEGORY (CB22):**

\*\* Categories qualify for enhanced funding, as long as they are a part of an approved CDCP program.

- A (English as a Second Language (ESL)\*\*                       B (Immigrant Education)
- C (Elementary and Secondary Basic Skills)\*\*                       D (Health and Safety)
- E (Substantial Disabilities)                       F (Parenting)
- G (Home Economics)                       H (Courses for Older Adults)
- I (Short Term Vocational)\*\*                       J (Workforce Preparation)\*\*

**References:**

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195  
ASCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

**PROGRAM STATUS (CB24):**

- Program Applicable       Not Program-Applicable

**APPROVED SPECIAL CLASS (CB13):** Title 5 section 56028.

- S (designated as an approved special class for disabled students)       N (not a special class)

**SPECIAL CHARACTERISTIC(S) (if applicable):**

- Learning Assistance (a form of supplemental instruction)
- Bilingual Instruction (a system of instruction that builds upon the language skills of a pupil whose primary language is not English or derived from English)
- Convalescent Setting (a course taught in a convalescent home, skilled nursing facility, residential care home, day care center, or nursing home)
- Correctional Facility (a course taught either at or through a federal, state, or local correctional institution)
- Apprenticeship (a course that provides related and supplemental instruction for apprenticeship and coordination of instruction with job experience, upon agreement with the program sponsor/employer and the California Division of Apprenticeship Standards)
- Persons of Substantial Disabilities (a course designed to serve persons with substantial disabilities)
- Citizenship for Immigrants (a course designed to provide instruction and services in citizenship)

PREREQUISITES, COREQUISITES or ADVISORIES:				
Select One	Subject	Number	Course Title	Units
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				

## SECTION II - COURSE CONTENT AND OBJECTIVES

**COURSE CONTENT AND OBJECTIVES** Outline the topics included in the lab portion of the course (*Outline reflects course description, all topics covered in class*). Add more lines as needed.

• The content element contains a complete list of all topics to be taught in the course. The list should be arranged by topic with sub-headings. Content items should be subject based.

• Objectives: (Include Total Hours for each Topic), should be stated in terms of what students will be able to do, should clearly connect to achievement of the course goals, should be concise but complete: ten objectives might be too many; one is not enough, should use verbs showing active learning, theory, principles, and concepts must be adequately covered. Skills and applications are used to reinforce and develop concepts, each objective should be broad in scope, not too detailed, narrow, or specific.

<b>Lecture Content:</b>	<b>Hours per topic</b>	<b>Objectives:</b>
Shop Safety	4	Describe use of Personal Protection Equipment (PPE) and shop safety practices.
Automotive Systems Overview	6	Describe the major automotive systems and their basic function.
Engine Operation and Servicing	6	Explain the theory of engine operation and service requirements.
Electronic Engine Emission Controls	12	Describe common engine sensors and normal operating parameters.
Diagnostic Scanner Operation	8	Explain the use of diagnostic scanners in the repair of automotive engines.
Use of Web-based Repair Reference Websites	7	Outline the steps in accessing repair information for specific vehicles using web-based repair sites.
Manufacturer Diagnostic Procedures	10	Describe procedures for using an automotive manufacturer diagnostic chart.
Final examination.	1	
<b>Total Hrs:</b>	<b>54</b>	

<b>Lab Content:</b>	<b>Hours per topic</b>	<b>Objectives:</b>
Shop Safety	4	Demonstrate use of Personal Protection Equipment (PPE) and shop safety practices.
Automotive Systems Overview	4	Identify the major automotive systems and their basic function.
Engine Operation and Servicing	6	Demonstrate engine servicing procedures according to manufacturer specifications.
Electronic Engine Emission Controls	9	Identify common engine sensor locations and testing points.
Diagnostic Scanner Operation	12	Perform engine sensor parameter checks and identify cause of Malfunction Indicator Lamp (MIL).
Use of Web-based Repair Reference Websites	6	Utilize web-based repair reference sites as part of diagnostic practices.

**References:**

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195  
 ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

Manufacturer Diagnostic Procedures	12	Perform automotive repair procedures following a manufacturer diagnostic chart.
Final Exam	1	
Total Hrs:	54	

**INSTRUCTION AND EVALUATION**, add more lines as needed.

- **Methods of Instruction** - The focus should be about describing what the students will be doing and experiencing, not only with respect to the instructor, but in some cases with respect to each other and with their environment. The methods of instruction used are appropriate to the objectives. If an objective is to "physically perform," then lecture as the sole method for learning is not enough. The assignments and methods of instruction and evaluation must be appropriate to the stated objectives.
- **Methods of Evaluation** - The bases for evaluating assignments are given, and relate to skills and abilities in objectives. Knowledge of required material should constitute a significant portion of the evaluation as reflected in assignments and methods of evaluation. Please note that while noncredit courses do not produce grades that would be "credited" into a student record, this in no way obviates the critical need for the course design to comprehensively include student evaluation and feedback.

Methods of Instruction	Methods of Evaluation
Discussion	Quizzes and exams that show an understanding of course content.
Hands-on activities	Completion of NATEF task sheets outlining procedures for vehicle service

**LEARNING OUTCOME INFORMATION**

<b>Student Learning Outcomes:</b> Upon successful completion of this course, the student will be able to ( <i>Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.'</i> ) (MAXIMUM OF 3 OUTCOMES)	<b>How will these student learning outcomes be assessed?</b> ( <i>Explain how each outcome will be assessed in this column:</i> )
Describe and perform automotive diagnostics and repair	Completion of related NATEF task sheets

**Required Text(s):**

Texts and instructional materials should be completely referenced: author, title, publisher, and date.

Automotive Technology: Principles, Diagnosis, and Service 5<sup>th</sup> Edition, Halderman, 2016

**Supplementary Readings:**

**References:**

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195  
 ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

N/A

**Required Writing:**

Assignments will include written essays describing vehicle system operation

**Assignments and/or Other Activities:**

The assignments should be presented in a manner that reflects both integration with the stated objectives and a likelihood that they will lead to students achieving those objectives. It is clear that there are student performance expectations, that these are taught in class, practiced through various assignments, and evaluated as the basis for any feedback or potential certification.

**Supplies needed:**

This section should also include any required materials or other equipment such as a sports item, lab equipment, tools, art materials or anything else the student must have to participate effectively in the course.

Approved student uniform shirt, black pants, safety glasses, and slip/oil resistant shoes.

**References:**

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195  
ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

### SECTION III – SUPPORT NEEDED

Indicate how the college plans to support the proposed course:

**Additional Staff needed:** None \_\_\_\_\_

**Classroom type needed:** None \_\_\_\_\_

**Equipment needed:** (List new equipment needed and indicate funding source for any new equipment)

None

**Supplies needed:** None \_\_\_\_\_

**Library/Learning Resources –** (List Library and Learning Resources needed, including the cost and funding source for needed resources)

None



### SECTION IV – APPROVAL STATUS

a. <input checked="" type="checkbox"/> New Course	Board Approval Date:	Effective Semester: Fall 2017
b. <input type="checkbox"/> Course Update	College Approval Date:	Effective Semester:
c. <input type="checkbox"/> Course Change*	College Approval Date:	Effective Semester:
d. <input type="checkbox"/> Course Reinstate	College Approval Date:	

\*Course change is based on changes to Districtwide attributes

This course meets Title 5 55002(c) requirements for Noncredit Course:  
The course treats subject matter and uses appropriate resource materials, teaching methods, and standards of attendance.

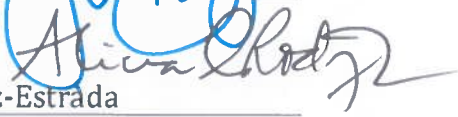
The course outline of record specifies the number of contact hours normally required for a student to complete the course, the catalog description, the objectives, contents in terms of a specific body of knowledge, instructional methodology, examples of assignments and/or activities, and methods of evaluation for determining whether the stated objectives have been met.

**COLLEGE APPROVALS:**

Jess Guerra   
**Originator** 8/31/17  
Date

Jess Guerra   
**Department Chair** 8/31/17  
Date

Leticia Barajas   
**Dean** 9/5/2017  
Date

Alicia Rodriguez-Estrada   
**Curriculum Chair** 9/5/2017  
Date

Martin Diaz   
**Academic Senate President** 9/5/17  
Date

Leticia Barajas   
**Vice President, Academic Affairs** 9/5/17  
Date