CREDIT COURSE OUTLINE

I. COVER PAGE

(1) AUTOT 10	(2) Automotive Technician Program	(3) 16
Number	Title	Units

(4)	Lecture / Lab Hours:			(8)Classification:			
	Course Hours						
		Weekly Lec hours:	9.00			Degree applicable:	X
		Weekly Lab hours:	21.00			Non-degree applicable:	
		Total Contact hours:	540.00			Basic skills:	
	Lec will generate __ hour(s) outside work.			(9)RC	Fulfills AS/AA degree requirement: (area)		
	Lab will generate __ hour(s) outside work.				General education category:		
(5)	Grading Basis:	Grading Scale Only	X		Major:	Automotive Technician Program	
		Pass/No Pass option			Certificate of:	Automotive Technician Program	
		Pass/No Pass only			Certificate in:		
(6)	Advisories: • Eligibility for English 125, 126, and Mathematics 103			(10)CSU	Baccalaureate:	X	
(7)	Pre-requisites (requires C grade or better): • Automotive Technology 9			(11)Repeatable: (A course may be repeated three times)		0	
	Corequisites: •			(12)C-ID:			
				Proposed Start Date:		Fall 2012	

(12) Catalog Description:
This course, Automotive Technology-10, in concert with Automotive Technology-11, will prepare the student with the knowledge and skills to perform diagnosis and repair of various automotive components and enter the automotive service industry at the advanced apprentice level. Subjects include: safety, ethics, regulations, engine repair, manual transmissions, clutches, automatic transmission, and chassis electrical systems. Most tools and equipment are provided; however, the student is expected to furnish a Digital Volt Ohm Meter (DVOM), personal safety items, and a materials fee.

II. COURSE OUTCOMES:

(Specify the learning skills the student demonstrates through completing the course and link critical thinking skills to specific course content and objectives.)

Upon completion of this course, students will be able to:

I. diagnose, repair, and service automobiles and light trucks engines utilizing the logic and reasoning developed in class through hands-on experience.
II. apply safety procedures in a shop environment and follow hazardous waste handling procedures.
III. apply and demonstrate shop procedures from hands-on experience.
IV. perform system repairs and services in accordance with accepted industry practices on manual transmissions/clutches
V. diagnose, repair and service clutches utilizing the logic and reasoning developed in class through hands-on experience.
VI. diagnose, repair and service automatic transmissions utilizing the logic and reasoning developed in class through hands-on experience.
VII. perform electrical system repairs and service in accordance with accepted industry practices.

III. COURSE OBJECTIVES:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

In the process of completing this course, students will:

I. learn to work safely in a shop environment
II. manage hazardous waste materials
III. develop an understanding of the Automotive Industry
IV. identify and use tools and shop equipment
V. identify and use automotive measuring devices
VI. analyze and identify engine components
VII. analyze and identify electrical systems
VIII. analyze and identify manual transmissions
IX. analyze and identify clutch systems
X. diagnose and repair automatic transmissions

XI. diagnose and repair electrical systems
XII. diagnose and repair engines

IV. COURSE OUTLINE:

Lecture Content:

A. Shop safety and hazardous waste management
B. Introduction to the Automotive Industry
C. Introduction to automotive tools and equipment
D. Automotive measurements and measuring devices
E. Engine theory
F. Electrical theory
G. Manual transmission basics
H. Clutch basics
I. Automatic transmission diagnosis and repair
J. Electrical system diagnosis and repair
K. Engine diagnosis and repair

Lab Content:

Lab includes lecture and hands-on of the subjects listed below:
1. Safe untilization of tools and equipment.
2. Safe vehicle repair.
3. Engine diagnosis and overhaul.
4. Automatice transmission diagnosis and overhaul.
5. Manual transmission diagnosis and overhaul.
6. Clutch system diagnosis and overhaul.
7.. Electrical system diagnosis and repair.

V. APPROPRIATE READINGS

Reading assignments may include but are not limited to the following:

I. Sample Text Title:
1. Recommended - Tom Birch *Manual Drivetrains and Axles,* ed. 6 Prentice Hall , Upper Saddle River, New Jersey, 2012,
2. Recommended - James Halderman *Diagnosis and Troubleshooting of Automotive Electrical, Electronic, and Computer Systems,* ed. 6 Prentice Hall, Upper Saddle River, New Jersey, 2012,
3. Recommended - Tom Birch *Automatic Transmissions & Transaxles,* ed. 5 Pearson, Upper Saddle River, New Jersey, 2012,
4. Recommended - Tim Gilles *Automotive Engines Diagnosis, Repair, and Rebuilding,* ed. 6 Delmar, Clifton Park, New York, 2011,

II. Other Readings

___ Global or international materials or concepts are appropriately included in this course
___ Multicultural materials and concepts are appropriately included in this course

If either line is checked, write a paragraph indicating specifically how global/international and/or multicultural materials and concepts relate to content outline and/or readings.

VI. METHODS TO MEASURE STUDENT ACHIEVEMENT AND DETERMINE GRADES:

Students in this course will be graded in at least one of the following four categories. Please check those appropriate. A degree applicable course must have a minimum of one response in category A, B, or C.

A. Writing Check either 1 or 2 below			
X	***1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.***		
	2. Substantial writing assignments are NOT required. If this box is checked leave this section blank. For degree applicable courses you must complete category B and/or C.		
	a) essay exam(s)		d) written homework
	b) term or other paper(s)		e) reading reports
X	c) laboratory report(s)	X	f) other (specify) repair orders and engine report

Required assignments may include but are not limited to the following:
Employment applications and resume
Repair orders
Engine report

B. Problem Solving Computational or non-computational problem-solving demonstrations, including:

X	a) exam(s)	X	d) laboratory reports
X	b) quizzes		e) field work
	c) homework problems	X	f) other (specify): Ohm's law measurements and calculations

Required assignments may include but are not limited to the following:
Ohm's law
Measurements and calculations

C. Skill demonstrations, including:			
X	a) class performance(s)	X	c) performance exams(s)
	b) field work		d) other (specify)

Required assignments may include but are not limited to the following:
Engine manifold pressure (vacuum) diagnosis, electrical charging diagnosis, and engine starter/battery voltage diagnosis.

D. Objective examinations including:			
X	a) multiple choice	X	d) completion
	b) true/false		e) other (specify):
X	c) matching items		

COURSE GRADE DETERMINATION:
Description/explanation: Based on the categories checked in A-D, it is the recommendation of the department that the instructor's grading methods fall within the following departmental guidelines; however, the final method of grading is still at the discretion of the individual instructor. The instructor's syllabus must reflect the criteria by which the student's grade has been determined. (A minimum of five (5) grades must be recorded on the final roster.)

If several methods to measure student achievement are used, indicate here the approximate weight or percentage each has in determining student final grades.
30% Exams
30% Quizzes
30% Lab Reports
10% Employability Skills

A - 100%-90%
B - 89%-80%
C - 79%-70%
D - 69%-60%
F - 59% and lower

VII. EDUCATIONAL MATERIALS

For degree applicable courses, the adopted texts, as listed in the college bookstore, or instructor-prepared materials have been certified to contain college-level materials.

Validation Language Level (check where applicable):	College-Level Criteria Met YES	NO
Textbook	X	
Reference materials	X	
Instructor-prepared materials	X	
Audio-visual materials	X	

Indicate Method of evaluation:
Used readability formulae (grade level 10 or higher) _____
Text is used in a college-level course _____
Used grading provided by publisher _____
Other: (please explain; relate to Skills Levels) X Industry Standard

Computation Level (Eligible for MATH 101 level or higher where applicable)	X	
Content		
Breadth of ideas covered clearly meets college-level learning objectives of this course	X	
Presentation of content and/or exercises/projects:		
Requires a variety of problem-solving strategies including inductive and deductive reasoning.	X	
Requires independent thought and study	X	
Applies transferring knowledge and skills appropriately and efficiently to new situations or problems.	X	

List of Reading/Educational Materials
Recommended - Tom Birch *Manual Drivetrains and Axles,* ed. 6 Prentice Hall , Upper Saddle River, New Jersey, 2012,
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Recommended - Tim Gilles *Automotive Engines Diagnosis, Repair, and Rebuilding,* ed. 6 Delmar, Clifton Park, New York, 2011,

Comments:

_____ This course requires special or additional library materials (list attached).
_____ This course requires special facilities:

Attached Files:

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 201. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

Check the appropriate spaces.

_____ Eligibility for Math 201 is advisory for the target course.
_____ Eligibility for English 126 is advisory for the target course.
_____ Eligibility for English 125 is advisory for the target course.

If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.

REQUISITES

Prerequisite -- AUTOT 9 Automotive Essentials

1.Introduction to industrial safety. 2. Introduction to tool safety. 3. Introduction to equipment safety. 4. Understanding vehicle repair safety.

ESTABLISHING PREREQUISITES OR COREQUISITES

Every prerequisite or corequisite requires content review plus justification of at least one of the seven kinds below. Prerequisite courses in communication and math outside of their disciplines require justification through statistical evidence. Kinds of justification that may establish a prerequisite are listed below.

Check one of the following that apply. Documentation may be attached.

_____Significant statistical evidence indicates that the absence of the prerequisite course is related to unsatisfactory performance in the target course.
Justification: Indicate how this is so.
_____The health or safety of the students in this course requires the prerequisite.
Justification: Indicate how this is so.
__X__The prerequisite course is part of a sequence of courses within or across a discipline.
_____The prerequisite is required in order for the course to be accepted for transfer to the UC or CSU systems.
Justification: Indicate how this is so.
_____The prerequisite/corequisite is required by law or government regulations.
Explain or cite regulation numbers:
_____The safety or equipment operation skills learned in the prerequisite course are required for the successful or safe completion of this course.
Justification: Indicate how this is so.
_____The safety or equipment operation skills learned in the prerequisite course are required for the successful or safe completion of this course.
Justification: Indicate how this is so.
_____Three CSU/UC campuses require an equivalent prerequisite or corequisite for a course equivalent to the target course:

Justification:

JUSTIFICATION OF LIMITATION ON ENROLLMENT

Enrollment in courses or blocks of courses may be limited based on performance, honors, or other performance based criteria. Be mindful of the disproportionate impact the limitation will have on specific groups of students. It is important to determine if the limitation will disproportionately keep under-represented students from enrolling in the course or block of courses.

Describe the reasons for limiting the enrollment.

Course Designator: AUTOT 10
Course Title(s): Automotive Technician Program
Rationale for Limiting Enrollment: 0