VICTOR VALLEY COLLEGE SYLLABUS

Spring 2018

# Course No.: Auto 79B Course Title: Ignition and Fuel Systems Units: 4

# Section No.:64121 Class Hours: 1:00-4:00 pm Days: Tues./ thurs. Room No.: Bldg. 67 Rm. 10

# Instructor Name: Steve Coultas Office No: Bldg. 64 Rm. 3 Tel. Ext.:2424

# E-mail Address: steven.coultas@vvc.edu

# Office hours by appt. Monday 4:00-6:00 pm & Friday 1;00-5:00pm

## SPRING CALENDAR

**Spring Term Begins February 12**

**Presidents Day Lincoln February 16**

**College Closed (no classes) February 17**

**Presidents Day Washington February 19**

**Spring Break (no classes-offices open) April 09 – 13**

**Spring Break Holiday (college closed) March 30**

**College Closed (no classes) March 31**

**Memorial Day Holiday (college closed) May 28**

**Commencement June 8**

**Spring Semester Ends June 9**

**Sixteen (16) week term February 12 – June 9**

**Off-Campus Twelve (12) week term February 12 – May 12(Does not follow VVC calendar, see that site’s calendar)**

**First Twelve (12) week term February 12 – May 12**

**Second Twelve (12) week term March 12 – June 9**

**First Eight (8) week term February 12 – April 7**

**Second Eight (8) week term April 16 – June 9**

## WITHDRAWAL POLICY

**NOTE** – **CAMPUS IS CLOSED and** **CLASSES WILL NOT BE HELD ON CAMPUS THE FOLLOWING DATES:**

**February, 16th, 14th, 19th, March 30th, 31st, April 9th, 10th, 11th, 12th, 13th, 14th, and May 28th**

STATEMENT OF ACCESS: Students with special needs are encouraged to meet with instructors to discuss the opportunity for academic accommodation and referral to Disabled Students Programs and Services (DSPS) and services per Administrative Procedure (AP 3440)

**Visit Victor Valley College online at** [**www.vvc.edu**](http://www.vvc.edu/)

## Prerequisite: Auto 50

## Textbook:

## CDX Auto Light Vehicle online subscription and

## CDX Auto Light Vehicle Tasksheet Manual for NATEF Proficiency

## Course Description:

This course covers techniques used by the automotive industry to diagnose and

repair ignition systems and fuel systems. Topics covered include the diagnosis

and repair of conventional and electronic ignition systems, conventional and

feedback carburetors, along with emission control devices.

## Course Objectives:

Upon completion of the course the student should be able to:

Recognize and identify shop safety, environmental hazards and

sustainable environmental practices in an automotive shop

1.

a. Exams/Tests/Quizzes

b. Lab Activities

2. Identify the different components of the ignition system.

a. Exams/Tests/Quizzes

b. Lab Activities

Disassemble, measure, diagnose, repair and reassemble all ignition

system components.

3.

a. Exams/Tests/Quizzes

b. Lab Activities

Diagnose, disassemble, repair and reassemble components of the

fuel delivery system.

4.

a. Lab Activities

Diagnose, disassemble, repair and reassemble components of

emission control systems.

5.

a. Lab Activities

Analyze and diagnose cylinder block, cylinder head, crankshaft,

camshaft and valve train problems.

6.

a. Exams/Tests/Quizzes

b. Lab Activities

## Student Learning Outcomes:

Upon completion of the course the student can:

1. Demonstrate the ability to safely and responsibly perform automotive

repairs while minimizing impact on the environment

2.Determine necessary repairs to bring the engine into industry

compliance for driveability and emissions

Attendance Policy: (Class attendance is not a measure of performance or proficiency. Whether a student is just physically present in the class is not a valid basis for grading. Reference Title 5 Section 55002 of the California Code of Regulations: (A) Grading Policy. The course provides for measurement of student performance in terms of stated course objectives and culminates in a formal, permanently recorded grade based upon uniform standards in accordance with section 55758 of this Division. The grade is based on demonstrated proficiency in the subject matter and the ability to demonstrate that proficiency, at least in part, by means of written expression that may include essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.)

**It is the responsibility of each student to add or drop his/her classes. In the event that he/she does not drop by the VVC stated drop date and stays enrolled in the class as a result, he/she will be issued a failing “WF” grade as applicable for incomplete work.**

## Grading Policy: Letter grade

100%-90% A

80%-89% B

70%-79% C

60%-69% D

Below 60% F

Class participation based on timecard records 10%

Pre-tests and NATEF Labsheet assignments 40%

Chapter tests and Discussion Board written assignments 30%

Hands-on and written Final exams 20%

**The test taker will be subjectively graded on the Labsheet tasks using the following rubric.**

4 (A) - Test taker is able to identify and successfully conduct at least 100% of the applicable diagnostic testing procedures. The test taker clearly documented on a repair order  concern, cause, results of applied diagnostic procedures, correction and repair confirmation.

3 (B) - Test taker is able to identify and successfully conduct at least 90% of the applicable diagnostic testing procedures.The test taker clearly documented on a repair order  concern, cause, results of applied diagnostic procedures, correction and repair confirmation.

2 (C) - Test taker is able to identify and successfully conduct at least 80% of the applicable diagnostic testing procedures.The test taker clearly documented on a repair order  concern, cause, results of applied diagnostic procedures, correction and repair confirmation.

1 (D) – Test take is able to identify some test procedure but was unable to successfully conduct the procedures that were identified. The test taker was unable to document on a repair order  concern, cause, results of applied diagnostic procedures, correction and repair confirmation.

0 (F) - Test taker is unable to identify or perform and applicable test procedures applicable to stated failure. The test taker was unable to document on a repair order  concern, cause, results of applied diagnostic procedures, correction and repair confirmation.

**CDX E-book and Tasksheet Manual for NATEF Proficiency**

Access to CDX on-line Automotive Training can be purchased through the VVC book store (packet is located behind the cash register) or the VVC book stores website. You can also purchase directly from the CDX website.  CDX is a required component of this class and it is how you will access all of the course material and the ability to take chapter tests and the final exam.  In short, you cannot pass this class unless you have your own personalized access to CDX you will not be able to share with another student.  Your subscription is valid for one year. If your financial aid has not yet been funded, in some instances the book store will allow a book store voucher contingent on your financial aid funding. You should speak to your financial aid representative for more information.

**Light Vehicle 1 year on-line access code ISBN 9781284119541**

**Tasksheet Manual ISBN: 978-1-284-02679-5**

Below is a coupon code that will allow students to buy CDX products direct.

**Code:** 2017DMCDX

Please have students call customer service at [800-832-0034](tel:800-832-0034), Option 2 for payment with credit card.    **DO NOT Call CDX SUPPORT DESK-** They help with login issues only.

Copy and paste this link into your browser to learn how to open and use your CDX E-Book

**https://www.youtube.com/watch?v=mvgxT-JtZTY**

**Book Store Voucher Statement**

Under certain circumstances if you have already completed your FAFSA documentation and have received and “Award Letter” but have yet to be funded you may be able to receive a bookstore voucher of up to $400.00 depending on funding and eligibility. If you meet all requirements and timing guidelines you will need to complete the following:

1. Download and print your current class schedule
2. Download and print your “Award Letter” from the “My Documents” tab in your WebAdvisor Account.
3. Bring both documents and your current VVC student ID to the Accounting Office at VVC in the Student Activities Center across the hallway from the bookstore to determine final eligibility.

**SP2 Shop Safety Program:** All students participating in courses within the automotive program must pass two safety courses on the SP2 website- Mechanical Safety and Mechanical Pollution Prevention prior to working in the lab. The safety program contained on this website is intended to educate the students on both safety and environmental concerns regarding the automotive industry.  The student should log onto the website using the following information and complete both final exams with a grade of 80% or greater.  The student will have five attempts at the final exam before the exam will need to be reset by the instructor.  Upon completion of each exam the student can print out a certificate suitable for framing or inclusion with a resume.

**www.sp2.org**

**Account ID: 78442**

**Password: fact**

**Pin: Last six digits of your college ID#**

Assignments by week

**Week 1 2/12-1/17/18**

* Read all 9 steps of “Start Here”
* Read and understand VVC Auto “Policies and Procedures” handout- **signed copy** **Due 2/15/18 at the beginning of class**
* Read and respond to “Discussion Board” titled “Introduction” **due 2/16/18 at midnight**
* Log into SP2 safety training. Perform “Mechanical Safety” & “Mechanical Pollution Control” training and Final exam modules- **Printed copy of passing scores due 2/20/18 at the beginning of class**
* Purchase CDX online and Tasksheet Proficiency class materials - Chapter 12 Pretest and reading assignment **due 2/20/18 at the beginning of class**
* Purchase “Required Materials”- safety glasses, nitrile gloves, and VVC Auto uniform shirt **due 2/20/18 at the beginning of class**

**Week 2 2/18-2/24/18**

* Pretest Chapter 12 Motive Power Types-Spark Ignition- **due 2/20/18 at the beginning of class**
* Read Chapter 12 Motive Power Types-Spark Ignition- **due 2/20/18 at the beginning of class**
* **Lab tasksheets**:

-Vehicle lookup tasksheet #1

-C885

-C392

- C709

-C393

-C395

* Chapter 12 test **due 2/23/18 midnight**

**Week 3 2/25-3/3/18**

* Pretest Chapter 13 Engine Mechanical Testing- **due 2/27/18 at the beginning of class**
* Read Chapter 13 Engine Mechanical Testing- **due 2/27/18 at the beginning of class**
* **Lab tasksheets**:

Continued

-Vehicle lookup tasksheet #2

-C392

-C393

- C709

-C395

* Chapter 13 test **due 3/2/18 midnight**

Keyword: NTC Thermistor

**Week 4 3/4-3/10/18**

* Pretest Chapter 52 Meter Usage and Circuit diagnosis- **due 3/6/18 at the beginning of class**
* Read Chapter 52 Meter Usage and Circuit diagnosis- **due 3/6/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #3

-C291

-C296

-C561

-C641

* Chapter 52 test **due 3/9/18 midnight**

**Week 5 3/11-3/17/18**

* Pretest Chapter 61 Ignition Systems- **due 3/13/18 at the beginning of class**
* Read Chapter 61 Ignition Systems- **due 3/13/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #4

-C960

-C664

-C712

* Chapter 61 test **due 3/16/18 midnight**

**Week 6 3/18-3/24/18**

* Pretest Chapter 62 Gasoline Fuel Systems- **due 3/20/18 at the beginning of class**
* Read Chapter 62 Gasoline Fuel Systems- **due 3/20/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #5

-NN08

-C868

-C713

-C962

* Chapter 62 test **due Next Friday 3/30/18 midnight**

**Week 7 3/25-3/31/18**

* Chapter 62 Gasoline Fuel Systems- Continued
* GDI Presentation
* **Lab tasksheets**:

--Vehicle lookup tasksheet #6

-Complete left over tasksheets

* Chapter 62 test **due 3/30/18 midnight**

**Week 8 4/1-4/7/18**

* Open Lab
* Discussion Board #2 **due 4/6/18 at midnight**

Spring Break 4/8-4/14/18

Please take this opportunity to rest or get caught up on any assignments that you are behind on- see you next week!!

**Week 9 4/15-4/21/18**

* Pretest Chapter 65 Intake and Exhaust Systems- **due 4/17/18 at the beginning of class**
* Read Chapter 65 Intake and Exhaust Systems- **due 4/17/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #7

-C424

-C391

-C963

-C429

* Chapter 65 test **due 4/20/18 midnight**

**Week 10 4/22- 4/28/18**

* Pretest Chapter 63 Engine Management Systems- **due 4/24/18 at the beginning of class**
* Read Chapter 63 Engine Management Systems- **due 4/24/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #8

-C398

-C665

-C842

* Chapter 63 test **due 4/27/18 midnight**

**Week 11 4/29-5/5/18**

* Pretest Chapter 64 Onboard Diagnostic Systems- **due 5/1/18 at the beginning of class**
* Read Chapter 64 Onboard Diagnostic Systems- **due 5/1/18 at the beginning of class**
* **Lab tasksheets**:

--Vehicle lookup tasksheet #9

-C659

-C661

-C867

* Chapter 64 test **due 5/4/18 midnight**

**Week 12 5/6-5/12/18**

* Labscope Lecture and Lab Demonstrations
* **Lab tasksheets**:

--Vehicle lookup tasksheet #10

-C840

-C710

-C660

-C711

-C668

-C409

**Week 13 5/13-5/19/18**

* Open Lab- complete unfinished lab sheets
* ASE 8 Course Final Exam **due 5/25/18**

**Week 14 5/20-5/26/18**

* **ASE 8 Course Final Exam** **due 5/25/18**
* Open Lab- complete unfinished lab sheets
* Begin Hands-on Proficiencies
* Pay and register for **ASE A-8 Student Exam on 6/5/18**

**Week 15 5/27-6/2/18**

* Hands-on Proficiencies
* All labs to be signed off and turned in **due 5/31/18 at the end of class**
* Review and prepare for **ASE A-8 Student exam on 6/5/18**

**Week 16 6/3-6/7/18**

* **ASE A-8 Student Exam on 6/5/18 1:00 p.m. Building 21 ATC**

**The following are the VVC Automotive Department “Policies and Procedures” for students enrolled in Automotive classes. Please read carefully. You will be provided with a paper copy which you will sign and return to your instructor as indicated in Blackboard. By signing this document you acknowledge that you have read, understand, and agree to abide by all of the department policies.**

**Victor Valley College Automotive Technology Department**

**Student Policies and Procedures**



In addition to the following policies and procedure, students are governed by and expected to abide by the general rules, code of ethics and conducts of Victor Valley College.  Please refer to the student handbook for complete information.

**General Rules**

1. All repairs must be supervised by an instructor or qualified assistant designated by the instructor.  The shop may not be used outside of regular scheduled class time or without the permission and presence of an instructor.
2. If a student needs to leave the shop area during regular scheduled class time they are asked to inform the instructor.
3. Student are encouraged and in some courses required to bring tools to lab sessions, however VVCC or its employees are not responsible for the theft of your tools.  VVCC will provide an open top, unmonitored, locked tool storage area, however you are leaving locked toolboxes at your own risk.  If you do not feel comfortable leaving your tools under these conditions you are encouraged to store them elsewhere.
4. Only students that are currently enrolled in a class are permitted to be in a classroom, the auto shop library, parking area or in the auto shop work area.
5. All hazardous waste including oil, brake fluids, oil filters, gasoline, solvents and any other substance generally considered by the State of California to be of a hazardous nature must be stored and disposed of properly, if you have questions contact the Automotive Instructional Assistant
6. Students are encouraged to review the (MSDS) Material Safety Data Sheets before contacting any material or chemical in the shop. MSDS are located in the auto shop library.
7. If a student leaves the lab, class or instruction area during class time the college or its employees does not assume any liability.
8. Students enrolled in a class that is currently in session may borrow tools from the tool crib to use in the shop during that lab session. The student must return borrowed tools at the conclusion of that lab session. Tools are not to be removed from the lab area. The student that has borrowed the tool will be financial responsible for the tool if it is not returned to the tool crib at the end of the lab session or is damaged due to a negligence or mischief.  Tools will be treated just like borrowed library books from the library, if the tool is not returned to the tool crib the corresponding replacement cost be be placed on the student's account until paid in full. Financial holds on accounts will result in the student losing the ability to register for classes, holds on graduation and transcripts or other holds as determined by the college. To borrow a tool the student must surrender their current semester Victor Valley College student Identification. No other form of identification can be used to borrow tools. (I.E) Students cannot borrow tools using a driver's license or state ID, cell phone or car keys. ETC.

**Service Order Procedures and Lab Rules**

1. The instructor must approve all lab projects before work has begun.
2. Students will not be permitted to work in the lab area until they have passed both SP2 automotive safety and pollution training courses and tests with a score of 80% or higher.
3. All vehicles entering the auto shop parking area must have a current work order.
4. Keys will be given to the service advisor and kept in a locked storage area for the duration of the vehicle’s stay in the automotive department.  Keys can be checked out during lab sessions from the tool crib with a washer from the tool crib.
5. Only vehicles with a current repair order will be permitted in the shop or rear parking areas.  Student parking is provided in designated parking areas only.
6. All vehicles must have steering wheel covers, seat cover, floor mats and fender covers applied before repair work is started.
7. Students will be giving a technician work sheet and must document all work that is performed and all needed additional work on that sheet.
8. An instructor must verify all repairs and the technician worksheet must be signed by the instructor before the repair order can be closed and the vehicles can leave the lab area.
9. After repairs have been completed and repair orders have been closed, vehicles must be removed from the shop and rear parking areas.  Vehicle left without permission may be subject to impound.
10. All lab projects including vehicles left beyond the last day of the term will assumed to be abandoned and will be disposed of properly and at the sole discretion of Victor Valley College.
11. The instructor will have the ability to stop any project, assignment, repair or operation at anytime and for any reason if he or she feels that is being conducted in an unsafe manner, a safety rule is being violated, or it poses a hazard to anyone.
12. The internet may be accessed in the computer lab of the automotive department during scheduled class time and only with the permission of the instructor. The following web sites are the only sites that may be accessed.  Students found in violation of the internet rules or procedure will be subject to the following procedures or may be subject to immediate dismissal depending on the severity of the infraction.
13. Respiratory protection is required whenever in the presence of vapors or airborne particulate matter of any kind
14. Students are not permitted to use any piece of shop equipment without being properly trained on its usage and safety practices.
15. Students are not permitted to drive or road test a vehicle without being accompanied by the instructor or Instructional Assistant.  If the road test is with the instructional Assistant the student must acquire permission from the instructor.
16. When road testing a vehicle all laws must be obeyed and the vehicle may not be operated in an unsafe manner.
17. Students who do not possess a valid California driver’s license may not operate or sit in the driver’s seat of a vehicle.
18. Before starting any vehicle ensure that both feet are in the vehicle, all doors are closed, seat belt is on and you are prepared to operate the vehicle.
19. Wheels must be chocked on all vehicles before repair work is started.
20. A shop exhaust ventilation hose must be connected to the exhaust pipe of any vehicle running in the auto shop.
21. If a student doesn't understand the complete and safe operation of a piece of equipment, service operation or procedure it is not only their right but the responsibility of the student to stop and ask for proper training from an Instructor and Instruction Assistant before proceeding.
22. Printing within the department is for schematics and repair information only.

**Personal Conduct and Behavior**

1. Profanity and inappropriate conversation is unprofessional and will not be permitted.
2. In the Automotive Industry it is very important that you not only behave in a professional manner, but that you also look professional. Therefore the following mandatory dress policy must be followed:
   1. The Victor Valley College Automotive Department Shirt  must be worn to all lab and class sessions.
   2. The designated department shirt must be clean, unwrinkled and worn properly at all times.
   3. You must be bathed, clean, free of malodor, properly groomed and attired before coming to class. This determination will be made by the instructor and should be consistent with what an employer would expect during working hours.
   4. Your hair must be neat and clean.
   5. Fingernails must be clean and cut short. For Safety reasons acrylic are not allowed.
   6. Students not abiding by these policies will be dismissed from class for the day and will not be allowed to make up missed work.
   7. Any student who fails to conduct themselves in a professional manner will be removed from the class and forwarded to the Dean for corrective action.
   8. Students are required to conduct themselves in a safe and professional manner when in the classroom, lab area and when on the VVCC campus.
   9. Victor Valley College is a smoke-free institution. Smoking or the use of any tobacco products **or smokeless devices such as e-cigarettes,** is prohibited at all campus sites. Students, staff members and visitors to the campuses of Victor Valley College are permitted to use tobacco products or smokeless devices in their personal vehicles only.
   10. Students are not permitted to take breaks in the rear parking area
   11. Eating or drinking is not permitted in the shop, library/computer lab, or the rear parking area.
   12. Thievery of any kind is against department and college rules.
   13. Safety glasses are required when in the shop, whether working on a lab project or not.  Smoked colored glasses, sunglasses, and some tinted glasses do not meet the auto shop standard.  Please see instructor before purchasing glasses for proper identification.  The instructor will have final say on what is or is not safe and appropriate.  Some operations may require the additional use of a complete safety shield or tinted lenses for welding or cutting.
   14. Proper close-toed shoes are required in the lab area.
   15. Short pants are not permitted in the lab area.
   16. Loose or baggy clothing is not recommended and may be unsafe.  The instructor will have final say on what is or is not safe and appropriate.

**Shop Cleanup and Maintenance**

1. Students are responsible for keeping and maintaining a clean lab area while working in lab.
2. Each class will both sweep and mop the entire shop at the end of each lab session.
3. Students are to ensure that all lab areas are thoroughly cleaned before leaving the lab area.
4. Cleaning up oil spills from the shop floor:
   1. Apply oil absorbent to oil spill and allow sufficient time for oil absorbent to absorb fluid.
   2. Sweep up and either recycle or dispose of absorbent in oil absorbent disposal container.
   3. Wipe up remaining residue with shop rags and recycle shop rags.
   4. After determining floor is free of oil, mop floor with hot soapy water.
   5. After ensuring mop water is free of contaminates, dispose of mop water in shop sink.
   6. After disposing of used mop water thoroughly clean mop head and bucket and return empty bucket and clean mop to storage rack.  Ensure that mop is returned to the hanging position to ensure that it dries.
   7. (Please note that complete shop cleaning instructions are contained the in Shop Maintenance guide, however due to the legality of waste oil disposal a brief explanation was given here.)
5. All vehicle must be removed from the shop and work areas, parked and locked at the end of the lab session.
6. All benches must be cleaned and returned to the proper area at the end of the lab session.
7. Food and drinks are not allowed in the computer or service advisor areas.
8. Please notify your instructor and the instructional assistant in the event of a large hazardous materials spill.

**Attendance**

1. All students enrolled in a lecture or lab class are required to **“clock in”** upon their arrival and **“clock out”** upon their departure from class. This time card will serve as the official attendance record for the course. It is the responsibility of the student to ensure that this task is completed during every class session.
2. Any student found tampering with another student's time card, "Clocking in" or "clocking out"another student will be subject to a formal ”Student Disciplinary Action”, which may include termination from the course.

I have read, fully understand and agree to be abide by the Victor Valley College Departments Policies and Procedures.

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Print Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**After signing and dating above, please return the entire packet.  Your copy of this document is included in the course syllabus of record of all Victor Valley College Automotive Courses.**