VICTOR VALLEY COLLEGE SYLLABUS

SPRING 2018

# Course No.: Auto 80.0 Course Title: Auto Elct Comp Elec Sys Units: 12 Section No.: 65558 Class Hours: 8:00A.M.-12:10P.M. Days: Monday-Friday Room No.: Bldg 67 Rm 107

# Instructor Name: Steve Coultas Office No: Bldg. 64 Rm. 3 Tel. Ext.:X2424

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## 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 with a grade of “C” or better or equivalent

## Textbook:

### 1. CDX Online Textbook

Access to **CDX on-line Automotive Training** can be purchased through the VVC book store 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. CDX will also be the course material for many other advanced courses, making it one of the best values of any degree major at VVC. 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. The CDX NATEF Task Manual is not required for Auto50 however it may be a required in other more advanced courses. The necessary task sheets will be supplied for you in Auto50, if during the course of the semester you misplace these you can download them from your CDX subscription.

**After creating your CDX account please enter VVC Course code : 6235F8**

**If you do not enter that code you will NOT get credit for any work completed in CDX.**

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

 To buy CDX Online direct, please call CDX customer service at 800-832-0034, Option 2, and use coupon code 2017DMCDX for a discounted credit card purchase.

DO NOT CALL CDX SUPPORT DESK- They help with only with login issues.

**2. CDX Tasksheet Manual for NATEF Proficiency**

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

## Course Description:

This course covers techniques used by the automotive industry to diagnose and repair ignition systems, fuel systems, and emission control systems. Instruction will cover the diagnosis and repair of conventional and electronic ignition systems, conventional and feedback carburetors, fuel injection, and emission control devices.

## Course Objectives:

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

1.Recognize and identify shop safety, environmental hazards and

sustainable environmental practices in an automotive shop.

a. Exams/Tests/Quizzes

2. Identify the different components of the ignition system.

a. Lab Activities

3.Disassemble, measure, diagnose, repair, and reassemble all ignition

system components.

a. Lab Activities

4.Diagnose, disassemble, repair, and reassemble components of the

fuel delivery system.

a. Lab Activities

5.Disassemble, measure, diagnose, repair and reassemble

conventional and feed back carburetors.

a. Lab Activities

6.Diagnose, disassemble, repair, and reassemble components of

emission control systems.

a. Lab Activities

7.Analyze vehicle exhaust gasses, diagnosis ignition, fuel, and

emission problems with exhaust gas readings.

a. Lab Activities

8.Students will analyze and diagnose cylinder block, cylinder head,

crankshaft, camshaft and valve train problems.

a. Lab Activities

9.Analyze electrical malfunctions pertaining to customer driveability

complaints.

## Student Learning Outcomes:

Upon completion of the course the student can:

1.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.)

**Attendance is very important; if you are not in class you can’t hear the lecture, see the video, or perform lab work. A student can be dropped for missing four classes without personal or telephone contact with the instructor (see student handbook). Leaving class early without instructor’s permission is considered an absence. The instructor uses the time just after roll call to review course material, perform lab demonstrations, and administer the automotive knowledge test. Missing this time will affect your grade and you will get less out of the class. You should treat your Auto 79 Class as if you are employed in an auto shop, no employer will put up with an employee coming in late or having too many absences. Roll (time card) will be taken at 8:00 AM sharp each morning, if you are not in your seat you are not counted, roll will also be taken at the end of class (punch out your time card)**. Note: If you disrupt the class by talking at inappropriate times you will be asked to leave the class, see the VVC Student Handbook.

## Grading Policy:

 90 to 100% = A

 80 to 89% = B

Chapter Pre Tests 10% 70 to 79% = C

Discussions and Chapter Tests 35% 60 to 69% = D

Laboratory 30% Under 60% = F

Written and hands-on Final 25%

**Your 2 written Final Exams will consist of the Student Level ASE A-6 & A-8 exams. You will be required to register in advance for the exams at a cost of $36.00 for a year.**

**SAFETY: Before you are allowed to perform any maintenance or repairs on a vehicle, you must take the required SP-2 Safety Tests. They will be graded as a final chapter test- see the safety section of the Course Syllabus posted on Blackboard for instructions (your account will be set up by the end of the first day of the semester).**

 **All students are required to take safety instructions and an S/P-2 safety test (must**

**be passed with a grade of 80% or more before lab work is allowed). Log on to the**

**Internet** sp2.org **website. Your user name is 78442, your password is fact, and your**

**pin is your last 6 digits of your student ID number. Read the information presented**

**for** S/P2 Training for Mechanical Repair Safety **and** S/P2 Training for

Mechanical Repair Pollution Prevention**, take the quizzes, take both finals.**

**Successful completion of these two tests satisfy your safety requirements for one**

**year in the VVC Automotive Program. All lab rules and safety practices must be**

**followed. Failure to follow these rules is cause to be dropped from class.** NOTE:

All students are required to have and bring eye protection (no sun glasses) **(eye**

 **protection will** NOT **be loaned from the tool crib) to all lab sessions. A student must**

 **put on their eye protection as they walk from the classroom into shop. For every task**

 **in Engine Performance the following safety requirement must be strictly enforced:**

 **Comply with personal and environmental safety practices associated with clothing;**

 **eye protection; hand tools; power equipment; proper ventilation; and the handling,**

 **storage, and disposal of chemicals/materials in accordance with local, state, and**

 **federal safety and environmental regulations.**

 **Keyword: Galvanic Battery**

**LAB WORK:** **Lab work gives the students the skills needed to become employed in the automotive trade and it will count for 30% of your final grade. A student should treat their lab time as they were working in an auto repair shop, keeping in mind customer satisfaction. All repairs must be completed in a timely and thorough manner. Students will work in assigned teams and are expected to cooperate with team members and work together in a safe manner. There are up to 568 points available for NATEF Standards Job Sheets – Grading will be based on a modified curve. You must perform lab work to succeed in Auto 80. Each lab assignment is at least a part of an ASE Task; before a lab project will be signed off you must explain the result or lesson learned to the instructor or assistant. During lab sessions a student must dress appropriately (no shorts, sandals or baggy clothes). Students must wear ANSI impact rated safety glasses as well as nitrile rubber gloves when exposed to hazards during all lab sessions. Assignments are either in the NATEF Standards Job Sheet or occasionally provided by the instructor. All sheets must be filled out and documented properly- I will explain thoroughly what proper documentation is during class lecture. Auto 79 is not designed for the lab book to be completed 100%, but at least (95% of P-1, 80% of p-2, and 50% of P-3 Tasks must be completed based on what lab projects come into the shop) there are enough projects to receive an A for lab. Be sure to review all NATEF Job Sheets early in the semester to become familiar with all the tasks. This way as repair orders are assigned, you can document your lab work. When your team is assigned a Student Tech Sheet (repair order) look in this book and the index for all of the NATEF Job Sheets that apply to that job. Fill out each NATEF Job Sheet completely and tear them out of the book, the day when they are turned into the Service Consultant is the only time they will be signed off and awarded the earned points.**

**Lab Sheet Grading Rubric**

 **Performance Standard**

 **0—No exposure: No information or practice provided during the program; complete training**

 **required**

 **1—Exposure only: General information provided with no practice time; close supervision needed;**

 **additional training required**

 **2—Limited practice: Has practiced job during training program; additional training required to**

 **develop skill**

 **3—Moderately skilled: Has performed job independently during training program; limited**

 **additional training may be required**

 **4—Skilled: Can perform job independently with no additional training**

**Required Class Materials: The details of required class materials listed in Blackboard include:**

1. **CDX Online textbook and Tasksheet manual**
2. **VVC Automotive uniform shirt**
3. **OSHA approved safety glasses**
4. **Protective gloves**
5. **Tools as indicated**

Note about the Pre-Tests

**A pre-test is a measure of your prior knowledge of a subject and the results should not be used for or against you but as an indication of what you learned in the chapter (difference of score between the pre and final chapter test). Because of this if you attempt a pre-test you will earn the same grade if you would miss all questions or get them all correct. Use the difference between the two tests to measure your knowledge and if the difference is not to your satisfaction go back over the chapter.**

**WEEK 1** 2/212/18- 2/17/18

 **ASSIGNMENTS:**

* Follow “Start Here” instructions
* S/P2 Training for Mechanical Repair Safety & SP-2 Mechanical Repair Pollution Prevention
* Purchase CDX EBook and Tasksheet Manual
* Complete discussion Board “Introduction”
* Read, sign and return VVC Auto “Policies and Procedures”

**WEEK 2** 2/18/18- 2/24/18

 **Chapter 12 Motive Power Types- Spark Ignition Engines**

**Chapter 13 Engine Mechanical Testing**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter12, Read or listen to Chap 12; Take the Final for Chapter 12
* Take the Pre-Test for Chapter13, Read or listen to Chap 13; Take the Final for Chapter 13

**Lab:**

* **C392**
* **C393**
* **C709**
* **C395**

**WEEK 3 2/25/18- 3/3/18**

 **Chapter 50 Principals of Electrical Systems**

 **Chapter 51 Electrical Components and Wiring**

**ASSIGNMENTS:**

* Take the Pre-Test for Chapter50, Read or listen to Chap 50; Take the Final for Chapter 50
* Take the Pre-Test for Chapter51, Read or listen to Chap 51; Take the Final for Chapter 51

**Lab:**

* **C302**
* **C644**
* **C819**
* **C951**
* **C817**
* **C309**
* **C311**
* **C317**
* **C315**
* **C319**
* **C952**
* **C641**
* **C298**
* **C296**
* **C642**
* **C299**
* **C561**

**WEEK 4 3/4/18- 3/10/18**

 **Chapter 52 Meter Uses and Circuit Diagnosis**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 52, Read or listen to Chap 52, Take the Final for Chapter 52

**Lab:**

* Continue with Labsheets
* Open lab

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

 **Chapter 53 Batteries**

**Chapter 54 Starting Systems and charging Systems**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter53, Read or listen to Chap 53; Take the Final for Chapter 53
* Take the Pre-Test for Chapter54, Read or listen to Chap 54; Take the Final for Chapter 54

**Lab:**

* Continue with Labsheets
* Open lab

**WEEK 6** 3/18/18- 3/24/18

 **Chapter 55 Lighting Systems**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 55, Read or listen to Chap 55; Take the Final for Chapter 55
* Discussions assignment- "The 4 C's" assignment due Friday at midnight.

**Lab:**

* Continue with Labsheets
* Open lab
* NN08

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

 **Chapter 56 Network Communications and Body Accessories**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 56, Read or listen to Chap 56; Take the Final for Chapter 56

**Lab:**

* C330
* C336
* C338
* Open lab

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

 **Chapter 61 Ignition Systems Overview**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 61, Read or listen to Char 61, Take the Final for Chapter 61

**Lab:**

* C330
* C336
* C338
* Open lab
* C386
* C398
* C960
* C663
* C712
* C841
* Open lab **Spring Break 4/8/18- 4/14/18**

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

 **Chapter 62 Gasoline Fuel Systems**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 62, Read or listen to Chap 62, Take the Final for Chapter 62

**Lab:**

* C868
* C962
* C424
* C713
* Open Lab

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

 **Chapter 63 Engine Management Systems**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 63, Read or listen to Chap 63, Take the Final for Chapter 63

**Lab:**

* C661
* C659
* C867
* C840
* C710
* C660
* C668
* Open Lab

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

 **Chapter 64 On Board Diagnostics**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 64, Read or listen to Chap 64, Take the Final for Chapter 64

**Lab:**

* Continue with Labsheets
* Open lab

**WEEK 12** 5/6/18- 5/12/18

 **Chapter 65** **Induction and Exhaust**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 65, Read or listen to Chap 65, Take the Final for Chapter 65

**Lab:**

* C963
* C429
* C714
* Open lab

**WEEK 13** 5/13/18- 5/19/18

 **Chapter 66 Emission Control**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 66, Read or listen to Char 66, Take the Final for Chapter 66

**Lab:**

* C666
* C667
* C844
* C843
* Open lab

**Begin Hands-on final exams**

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

 **Chapter 67** **Alternative Fuel Systems**

 **ASSIGNMENTS:**

* Take the Pre-Test for Chapter 67, Read or listen to Chap 67, Take the Final for Chapter 67

**Lab:**

* Complete All Labsheets and submit Lab Book
* Complete all lab projects- Open lab

**Hands-on final exams**

Apply for Auto Specialist II Certificate

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

**Electronic Throttle Control presentation**

**Hands-on final exams**

Apply for Auto Specialist II Certificate

**WEEK 16** 6/3/18- 6/9/18

 **Student ASE A-6 6/4/18 TBA**

 **Student ASE A-8 6/4/18 TBA**

Have a Great Summer Break!!

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**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 Assistance
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.

**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 vehicles 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. 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.
11. 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.
12. Respiratory protection is required whenever in the presence of vapors or airborne particulate matter of any kind
13. Students are not permitted to use any piece of shop equipment without being properly trained on its usage and safety practices.
14. 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.
15. When road testing a vehicle all laws must be obeyed and the vehicle may not be operated in an unsafe manner.
16. Students who do not possess a valid California driver’s license may not operate or sit in the driver’s seat of a vehicle.
17. 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.
18. Wheels must be chocked on all vehicles before repair work is started.
19. A shop exhaust ventilation hose must be connected to the exhaust pipe of any vehicle running in the auto shop.
20. 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.

**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. Students are to ensure that all lab areas are thoroughly cleaned before leaving the lab area.
3. 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 an 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.)
4. All vehicle must be removed from the shop and work areas, parked and locked at the end of the lab session.
5. All benches must be cleaned and returned to the proper area at the end of the lab session.
6. Food and drinks are not allowed in the computer or service advisor areas.
7. Please notify your instructor and the instructional assistant in the event of a large hazardous materials spill.

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.**