Victor Valley College

Auto 89.2

Hybrid Vehicle Maintenance

Syllabus



Instructor: Keith Shaner

VICTOR VALLEY COLLEGE SYLLABUS

SPRING 2018

# Course No.: Auto 89.2 Course Title: Hybrid Vehicle Maint/Svc Units: 4

# Section No.: 64128 Class Hours: 1PM to 4:05pm Days: m,w Room No.:203

# Instructor Name: Keith Shaner Office No: 5 Tel. Ext.:2818

# E-mail Address: keith.shaner@vvc.edu

## 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:

Electric Drive Vehicle SBN: 978-1-933954-55-4

## Course Description:

This course addresses hybrid vehicle maintenance and service procedures.

Topics covered will include safety, manufacture specific hybrids, diagnostic and

repair procedures as they relate to hybrid vehicles.

## 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

b. Home Work

c. Lab Activities

2. Recognize, evaluate, and repair an internal combustion engine in an

auto repair shop/lab

a. Exams/Tests/Quizzes

b. Home Work

c. Lab Activities

3. Recognize and evaluate the condition of the fuel and ignition system

for the internal combustion engine of a hybrid vehicle

a. Exams/Tests/Quizzes

b. Home Work

c. Lab Activities

4. Recognize and evaluate the condition of an automotive computer

system as it activates and de-activates the electric and internal

combustion engine in a hybrid vehicle

a. Exams/Tests/Quizzes

b. Home Work

c. Lab Activities

## Student Learning Outcomes:

Upon completion of the course the student can:

1. Safely and responsibly perform automotive repairs while minimizing

impact on the environment

1. Determine necessary repairs to bring a hybrid vehicle and its

components into industry compliance for driveability and emissions

## Grading Policy:

90 to 100 = A

80 to 90 = B

70 to 80 = C

60 to 70 = D

50 to 60 = F

**GRADING POLICY SUMMARY:**

 Each student is required to complete SP2 safety Exam equaling to 10% of their grade.

Each student is required to complete all homework assignments equaling to 20% of their grade

Each student is required to complete all Test equaling to 30% of their grade

Each student is required to complete all laboratory assignments equaling to 40% of their grade

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.)

As we begin the Hybrid Vehicle Maintenance and Service class it’s important that you know what is expected of each student. Each student is required to have the text book (Electric Drive Vehicle SBN: 978-1-933954-55-4)

1. Each student is required to complete three SP2 safety Exam

 **SP2 Exam Instructions:** After the instructor registers the student in the sp2 system the student can use a computer at home or at the college to find the web site **sp2.org** By first logging on using **78442** asthe account ID, then use **fact** as the pass word, and finally enter the last **6 characters of your student ID #** as the pin, once on the site complete the mechanical safety and mechanical pollution prevention final exams. The student ID # can be found on the receipt you received at registration, student ID or your Instructor.

 2. Each student is required to complete the Acronyms and Abbreviations at the beginning of each chapter, review questions at the end of all assigned chapter in your Electric Drive Vehicle book. and be prepared to review your homework on every Monday of the week. Test will be given on Wednesday’s starting 2-21-2018. Home work is due every Monday for the previous week’s chapters.

3. Your lab sheets are at the end of most chapters in your text book and you are required to complete your work on that particular lab day and turn in to your instructor just before you leave the class. The instructor will note the time and sign off your work.

4. NO LATE HOME WORK WILL BE ACCEPTED. Homework is due every Monday

Assignment Schedule: Homework will be assigned each Wednesday and is due the following Monday. Every Monday, there will be a homework review followed by laboratory work. Weekly tests will be given every Wednesday on the previous week’s assigned work.

**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.**