

CUYAMACA COLLEGE
FORD ASSET PROGRAM
COURSE SYLLABUS

AT-192 Section 9820 Fall 2016 Power Train

12:00 p.m. – 5:55 p.m. Monday through Friday K-114

Instructor: Brad McCombs

Office: K118

Phone: (619) 660-4267 office (619) 701-1226 cell

Email: brad.mcombs@gcccd.edu

Office Hours: I am also available for web conferences using [CCC Confer Teach and Confer](#). This allows you to use your computer from home and go over web based training course questions, or resolve other challenges you may be having. Students use this resource to attend meetings every Wednesday night. You must create a user ID login prior to making an appointment. Please call in using your cell phone or home phone, because your computer microphone may cause distortion. We will share information by looking at computer screens and talking by phone.

Monday Office and Online	10:00 a.m. to 12:00 p.m. by appointment
Tuesday Office and Online	10:00 a.m. to 12:00 p.m. by appointment
Wednesday Online Only	08:30 p.m. to 10:00 p.m. by CCC Teach and Confer
Thursday Office and Online	10:00 a.m. to 12:00 p.m. by appointment
Friday Office and Online	10:00 a.m. to 12:00 p.m. by appointment
CCC Confer Web Based Office Hours	7:00 p.m. to 10:00 p.m. Every day by Appt. Except Wednesdays. I am also available on weekends.



Figure 1 CCC Confer login page

Prerequisites:

A successful [application and enrollment](#) to the Cuyamaca College Ford ASSET Program, and sponsorship by a Ford Dealership in order to complete the work experience requirements is required. The dealership will require a clean driving record. If you are not sure about your driving record please contact the California Department of Motor Vehicles (DMV) and request a driving record report. The dealership will also [require drug testing](#). Please also refer to [Cuyamaca College Student Code of Conduct](#).

- You must arrange cooperative work experience with a Ford Dealership.
- Safety Glasses
- Basic Hand Tools
- Dress Code is business professional (A Ford Uniform, or Accepted Ford Name Tag). Exposed tattoos are not allowed. No short pants. Shirts must have a collar. Shirts must be tucked in, and pants worn with a belt, unless the Ford uniform is designed to have the shirt untucked.

Course Description:

The Ford ASSET 192 course includes a detailed study of modern automatic transmissions, differentials, manual transmissions, clutch systems, and service procedures required to properly maintain these mechanical components. We will study basic and advanced power train systems and how they interrelate to the other systems used by the main control modules PCM, TCM, and ABS. The laboratories will cover disassembly and reassembly of powertrain components; systems inspections, adjustment and repair procedures, hydraulic service procedures, and Ford electronic systems procedures that are necessary for modern powertrain repair and service.

This course also demonstrates repair procedures as applied to checking and correcting drivetrain ECU updates. We will use state of the art equipment provided by Ford. Students will demonstrate ability to repair and replace powertrain components, and describe various modern designs including electronic active systems. This course emphasizes practical experience on Ford laboratory automobiles. ASSET 192 will prepare students for ASE Certification in the described content areas. This course is complemented by required work experience in a Ford dealership.

Powertrain engineering and design is a fascinating art form. The designs mimic nature, and have complexity to make drive shift strategies autonomous. Students will find this is an exciting specialization in Ford dealerships, and will enjoy describing power flow.

Course Objectives Student Learning Outcomes:

Exit Skills

Students having successfully completed this course exit with the following skills, competencies and/or knowledge:

- 1) Clutch diagnosis and repair.
- 2) Manual transmission transaxle diagnosis and repair.
- 3) Drive shaft and axle shaft diagnosis and repair.
- 4) Drive axle diagnosis and repair.
- 5) Four wheel drive all-wheel drive diagnosis and repair.
- 6) Automatic transmission transaxle diagnosis and repair.
- 7) Automatic transmission transaxle maintenance and adjustment.

Student Learning Outcomes

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

- 1) Demonstrate standardized safety and hazardous waste handling practices.
- 2) Utilize manufacturer's repair data and specifications for accurate diagnosis and repair using assigned lab sheets and hands-on testing.
- 3) Diagnose manual and automatic transmission mechanical and electrical faults following manufacturer's procedures using assigned lab sheets and hands-on testing.

Textbooks: Various Ford Motor Co. texts will be used. You will be required to purchase the Ford Manuals, which will also be included in Blackboard as a Pdf. File. Students may also print the Student Workbook from their student Blackboard account and print the book using their own paper and printer. There are three books that cost approximately \$5 each.

Halderman Automotive Technology, Principles, Diagnosis, and Service

ISBN 978-0-13-399461-2

This book can be purchased in the [College Bookstore](#) or you may find it online. This is the only textbook we will use in our program for the next two years. Supplemental reading assignments and tests will be

given from this textbook.

Evaluation: A uniform grading system will be applied to all students in this class. Students must pass the Final performance test and written test with a score of 80% or higher in order to receive Ford Certification. Students who receive a score between 70% and 80% will receive college credit.

Notebook: Students are required to take notes during lectures and labs. The notebook will be part of student class participation grading.

Class Participation	25%
Homework Quizzes	25%
Laboratory Assignments	25%
Midterm and Final Exam	25%

A Plus/Minus grading system will be used for final grades. Example:

70-73% = C 74-76% = C 77-79% = C+ College credit towards Associate of Science Degree, No

Ford Certification:

0%-69% No College Credit, No Ford Certification

80%-100% College Credit and Ford Certification

Note: Students who become certified in a content area are able to perform that warranty service at a Ford Dealer while they are still in training during their cooperative work experience.

Class Participation and Group Assignments: Students who participate in class discussions will do better. An attendance point system will be developed by the instructor and posted daily on your student Blackboard account. Students who come to class on time and finish the total classroom lab hours will

receive a total of 10 points per day. Students who are late or leave early without permission will have points deducted. Students will volunteer and be elected by their student peers, instructor, and be assigned to serve as group leaders.

Class Participation Rubric:

BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	Points Possible
Student misses class or leaves class early or shows up to class late. (0 Points)	Student comes to class late or leaves class early, but asks permission or provides an excuse (5-7 Points)	Student is always on time. Student only leaves class with permission after completing assignments. (8-10 Points)	All students start with 10 possible points each day. The points are documented in the grade center at the beginning of class.
Student does not participate in assigned tasks. (0 Points)	Student Participates in assigned tasks but does not take an active role or leadership role. The student tends to watch others work. (5-7 Points)	Student takes a leadership role in all assigned tasks. Student is willing to help others. (8-10 Points)	Points are finalized at the end of class. At the end of class points will either remain at 10 or be lowered.
Student Violates Safety Rules. (0 Points)	Student Does not violate safety rules but needs to be asked what he or she is doing? Student does not clean work area or needs to be told to clean up. (5-7 Points)	Student is safe and encourages others to be safe. Student cleans the shop area and encourages others to clean up. (8-10 Points)	There are 10 points possible per class session for this grading rubric under class participation, and will account for 25% of the total grade points.

Lab Assignments: Each individual or group lab assignment will be posted on Blackboard for the weeks assignments. The lab may have a due date and a unique name so students may identify the lab assignment in the grade center.

Midterm and Final Exam: There will be a midterm and final exam. The midterm will consist of a written exam. The final will consist of a written exam and a “hands on” exam. The hands on exam will allow the student and instructor to spend a scheduled time examining the student’s ability to apply the laboratory

assignments learned throughout the semester. Students who fail the objective written tests, or hands on tests will have a second chance to take the test. The student will not be given the same written test or hands on test.

Class Policies:

Please identify yourself by first and last name, and the course you are taking, for all communications. (For example: Brad McCombs AT196). Your name should be included in all communication.

Please use proper English when communicating. Courtesy and patience are mandatory when “replying” to other student “posts”. Do not use abbreviations. (“btw” is spelled by the way.)

Example:

Dear Mr. McCombs,

My web based training assignment is posted in STARS for your review.

Sincerely,

Joe Student AT-192

Ford ASSET

Mossy Ford

Communication technical requirements: You must have access to a computer and a high-speed Internet connection. It is preferred the computer you use have a microphone and camera for recording “chat messages” in discussion boards. You may use campus resources for a personal computer if you do not have your own.

Email: My preferred method of contact is by email through your Blackboard student email account. I will answer all emails within 24 hours. If you do not receive a reply from me within 24 hours, please assume I did not receive your email and resend it.

Please include a topic heading for all emails.

Brad.mcombs@gcccd.edu

Telephone: My telephone number is (619)-660-4267. I will return phone calls during business hours or answer immediately. If for some reason I don’t answer my phone, leave a detailed message on my voicemail and I will call you back the same business day. My mobile phone should be used for emergencies or issues you feel need my immediate attention (619) 701-1226. You may send me a text message.

Drop Policies: Students may be dropped from this course if more than 4 classes or Laboratory Assignments are missed without an excused absence. Student's course grade may be dropped 1 grade letter if more than 4 classes are missed.

Late Work: if you do not complete an assignment within the week allowed for that assignment, you may appeal, and your maximum score will be adjusted to 70% regardless of your actual score. This policy only applies to emergency appeals for access to content.

Students with Special Needs or Requiring Additional Help: [You Tube Resources for Students](#)

Please contact me directly if you are having trouble or require additional assistance or resources. We are here to help you succeed. There are also additional services at the following web link:

[Disabled Students Programs and Services](#)

We will be using a computer based learning system called Blackboard. Students requiring extra help with Blackboard can use the following resource: [Cuyamaca College Computer Lab](#)

Computer Lab

Homework and Quizzes: It is important students read the textbook chapters assigned for the classroom "Weeks" assignments before attending class. There will also be video assignments and other supplemental material found on your student Blackboard account. You be allowed to take formative quizzes as many times as necessary to attain the highest possible score during the time allotted for that quiz. Once a quiz is closed students will no longer have access to that quiz. Classroom written quizzes will be based on the reading assignments and the content posted on Blackboard.

Secure Web Logon

WARNING!

THIS IS A FORD MOTOR COMPANY PRIVATE COMPUTER SYSTEM. USAGE MAY BE MONITORED. UNAUTHORIZED ACCESS OR USE MAY RESULT IN CRIMINAL OR CIVIL PROSECUTION, DISCIPLINE UP TO AND INCLUDING TERMINATION OF EMPLOYMENT, TERMINATION OF ASSIGNMENT, OR LOSS OF ACCESS.

By signing on to the system I agree that, where consistent with applicable law: 1) I do not have any expectation of privacy in my use of the system, 2) My name and business contact information may be collected, processed, and stored by Ford in databases located in the U.S.A., and transferred among Ford and Ford's global affiliates (including the affiliates identified in Ford's most recent annual report on SEC Form 10-K available at the Ford corporate website) and their service providers for the purposes of my business relationship or arrangement with Ford, and 3) Ford actively monitors its information, systems, and data to identify and respond to security threats and losses, and any information or data identified through this monitoring may be shared among Ford and Ford's global affiliates and service providers, and provided to government authorities (including law enforcement).

Ford recognizes that in certain jurisdictions there are specific laws, regulations, and labor agreements that may apply, and Ford will comply with such requirements. [Click here for additional important terms and conditions.](#)

Enter your userid and password to login

Salaried Employees can login using their CDS ID and Password

USERID:

PASSWORD:

NOTE: PLEASE DO NOT SHARE YOUR USER ID OR PASSWORD WITH ANYONE

Dealers: To reset your password using your Q&A Profile, [click here.](#)

Figure 2 Ford secure login warnings

Electronic Use Policies: [My Video Reflections of Acceptable Use](#)

We must recognize the differences and expectations of using electronic information for online learning. Technology has made information more accessible increasing the need of acceptable use policies, which are facilitated through Federal, State, and local laws and GCCCD college district.

Federal and State laws offer protections for copyright holders to make copies or facilitate the copying of the work they have created. Fair use provides for limited use of copyright material. These limitations are found in sections of [copyright law](#).

The purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes

The nature of the copyrighted work

The amount and substantiality of the portion used in relation to the copyrighted work as a whole

The effect of the use upon the potential market for, or value of, the copyrighted work (1)

The law protects the creativity and innovations of copyright holders by limiting the unauthorized use of their work. This promotes creativity by awarding protections for intellectual property development, which benefits society by stimulating innovative ideas and artwork.

[Cuyamaca College Student Conduct and Discipline Procedures](#)

It is important to maintain a collegial conduct on campus, and this conduct extends to the online classroom. Privacy cannot be guaranteed when using campus computer systems or linking to Internet through campus resources. Treat all communication with values portraying higher learning.

The following quote was copied from the Cuyamaca College website:

“Your instructors are eager to help you succeed in your studies at Cuyamaca College. But success means more than just receiving a passing grade in a course. Success means that you have mastered the course content so that you may use the knowledge in the future, either to be successful on a job or to continue with your education” (Cuyamaca College Catalog, 2011-2012, p. 28). Therefore, dishonesty will not be tolerated in this course. This includes, but is not limited to, cheating, plagiarizing, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions, such as an “F” grade on the assignment or exam and will also be reported

to the Associate Dean of Student Affairs for possible further disciplinary action. Sample 4 "Academic honesty is required of all students. Plagiarism--to take and pass off as one's own work the work or ideas of another--is a form of academic dishonesty. Penalties may be assigned for any form of academic dishonesty"(Cuyamaca College Catalog, 2011-2012, p. 28). Sanctions for breaches in academic integrity may include receiving a grade of an "F" on a test or assignment. In addition, the Associate Dean of Student Affairs may impose further administrative actions."

Blackboard Tools offers Safe Assignment, which is an electronic [plagiarism](#) checker.

GCCCD Social Media Guidelines:

Although online conversations on social media sites are often casual, they must remain professional and respectful. Comments on the colleges' official pages are monitored to ensure compliance with the social networking guidelines. Inappropriate posts will be removed.

Content that will be deleted includes:

- An advertisement for a commercial business
- Libelous, slanderous or defamatory comments
- Vulgar, racist or sexist slurs
- Obscenities
- Comments pertaining to violence
- Incorrect information
- Information that violates student privacy under FERPA
- Comments that are not respectful
- Comments that are not relevant to the topic
- A commenter who is misrepresenting himself/herself
- A single person who is dominating the conversation
- We welcome photos, videos, and comments posted to the Cuyamaca College Facebook wall. Please review the GCCCD Social Media Guidelines if you are unsure the content you want to post is appropriate. We appreciate your cooperation.

Online Assignment, Ford Web Based Training, and Student Blackboard Accounts:

Students will be expected to complete a series of online learning modules called, “Ford Web Based Training” as homework. These modules are an excellent training resource, and require students to have access to a personal computer, not a MAC, and a high speed internet connection using internet explorer. Students will also use a learning management system called Blackboard. All classroom content including the syllabus and weekly assignments are found on Blackboard. We will also use “discussion boards” to access your knowledge about subject matter and writing skills that will be found on the “Student Work Bench” in the left column block on your student Blackboard account. This class requires students to use online learning tools. Below are links to assess student readiness to use distance learning tools:

[Is online learning right for me?](#)

[Support for online learning.](#)

[Cuyamaca College Computer Lab](#)

E-Learning Modules:

Online Web-Based Training Classes: The following online classes must be completed to be certified to perform steering, brakes, and suspension diagnosis and repairs at a Ford dealership, and be certified to perform warranty service in these content areas at a Ford dealership. Each module takes one to three hours to complete. Students who are new to the program are only required to complete these assigned modules. However, students should consider taking all of the electrical modules found in the ASSET planner.

Course Title	Course Number	Due Date	Points
Intro to Auto Trans Theory and Operation	37S10W0	Sunday 8-28-16 11:59 pm	10
Automatic Transmission Electronic Control Systems	37S11W0	Sunday 8-28-16 11:59 pm	10
Introduction to Automatic Transmission Service	37S12W1	Sunday 8-28-16 11:59 pm	10

Automatic Transmission Overhaul	37S13W0	Sunday 9-4-16 11:59 pm	10
5R110 (Torqshift) Diagnosis & Service	37S19W0	Sunday 9-4-16 11:59 pm	10
Torqshift 6 Diagnosis & Service	37S20W1	Sunday 9-4-16 11:59 pm	10
6F50 Diagnosis & Service	37S21W0	Sunday 9-4-16 11:59 pm	10
6F35 Diagnosis & Service	37S22W0	Sunday 9-11-16 11:59 pm	10
DPS6 Operation and Service	37S23W1	Sunday 9-11-16 11:59 pm	10
6R80 Operation and Service	37S24W0	Sunday 9-11-16 11:59 pm	10
Automotive Measuring Tools	32S02W0	Sunday 9-11-16 11:59 pm	10
Manual Transmission and Transaxle Operation	36S10W0	Sunday 9-18-16 11:59 pm	10
Manual Transmission and Transaxle Diagnosis	36S11W0	Sunday 9-18-16 11:59 pm	10
Differential and Driveline Systems Operation	36S13W0	Sunday 9-18-16 11:59 pm	10
Transfer Case & RWD based 4WD Systems Operation	36S14W0	Sunday 9-25-16 11:59 pm	10
Transfer Case & RWD based 4WD Systems Diagnosis	36S15W0	Sunday 9-25-16 11:59 pm	10
FWD based AWD Systems Diagnosis and Service	36S16W1	Sunday 9-25-16 11:59 pm	10

Date and lecture topic:	Assignments Labs	Home Work or Deliverables	Tests and Quizzes	Learning Objective
8-22-16 37S15T1 Automatic Transmission		College Safety Test Online 45 Points. Due by 1/28	Prerequisite Review Quiz Review	

Service Class Begins. Review Syllabus. Form Groups. Purchase Student Guides.				
8-23-16 Workstation 1	Each group will disassemble and reassemble 6R60/75 or a 6F650, or another assigned transmission			
8-29-16 Power point review			Midterm Automatic	
37S15T1 Auto Transmission Diagnosis and Service	Each group will rotate through transmission service labs		Prerequisite Review Quiz	
9-5-16	Labor Day	No School		
Power Point Review			Midterm Automatic Service	
9-12-16 36S12T0 Manual Transmission Transaxle			Prerequisite Review Quiz	
9-19-16				
9-26-16			Midterm Manual Transmissions	

9-27-16 36S17T0 Differential and 4WD Diagnosis and Repair				
10-3-16				
10-10-16				
10-14 Midterm			Midterm Differential and 4WD	
10-15-16 Class ends				