

Attachment A

Industrial Technology Mission Statement

Industrial Technology Philosophy Objectives:

To ensure our philosophy, our focus is on the following overall objectives:

1. Provide training in careers for high market demand industries by remaining cognizant of current and future industry employment opportunities.
2. Provide excellent motivational and pragmatic training in a highly qualified and individualized training program.
3. Encourage students to excel as individuals by building a supportive growth environment.
4. Developing positive attitudes of respect towards work.

Attachment B

Labor Market Information

LABOR MARKET INFORMATION AND ANALYSIS

In California the projection for diesel mechanics and diesel farm equipment mechanic is estimated at 22,100 and the projected 23,500 giving a total number of employment opening of 1400 with additional opening due to net replacement of 5,100 from 2008-2018 with a total annual job opening of 650 for diesel engine and for heavy equipment mechanic 900. The annual for this occupation is \$47,935 with an hourly mean \$22.51. These numbers were gathered for 2008-2018 (EDD). About the Imperial Valley, the labor occupation with fastest job % growth is the occupation on farm heavy equipment technician, from a projected year 2008-2018 with estimated employment of 70 and projected 130, with a 60 on demand, an estimated 85% more required (EDD).

**2012-2022 Fastest Growing Occupations
 El Centro Metropolitan Statistical Area
 (Imperial County)**

SOC Code*	Occupational Title	Estimated Employment 2012**	Projected Employment 2022	Percent Change 2012-2022	Annual Average Percent Change	2014 First Quarter Wages [1]	
						Median Hourly	Median Annual
49-3023	Automotive Service Technicians and Mechanics	350	430	22.9%	2.3%	\$24.28	\$50,513
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	130	150	15.4%	1.5%	\$12.82	\$26,676

* The Standard Occupational Classification (SOC) system is used by government agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data.

** Data sources: U.S. Bureau of Labor Statistics' Current Employment Statistics (CES) March 2013 benchmark, Quarterly Census of Employment and Wages (QCEW) industry employment, and Occupational Employment Statistics (OES) data.

Occupational employment projections include self-employed, unpaid family workers, private household workers, farm, and nonfarm employment.

Occupations with employment below 120 in 2012 are excluded.

Excludes "All Other" categories. These are residual codes that do not represent a detailed occupation.

The use of occupational employment projections as a time series is not encouraged due to changes in the occupational, industrial, and geographical classification systems; changes in the way data are collected; and changes in the OES survey reference period.

- [1] Median hourly and annual wages are the estimated 50th percentile of the distribution of wages; 50 percent of workers in an occupation earn wages below, and 50 percent earn wages above the median wage. The wages are from 2014 first quarter and do not include self-employed or unpaid family workers.
- [2] In occupations where workers do not work full-time all year-round, it is not possible to calculate an hourly wage.
- [3] The Bureau of Labor Statistics develops and assigns education and training categories to each occupation. For more information on these categories, please see http://www.bls.gov/emp/ep_education_training_system.htm

Entry Level Education
1- Doctoral or professional degree
2- Master's degree
3- Bachelor's degree
4- Associate's degree
5- Postsecondary non-degree award
6- Some college, no degree
7- High school diploma or equivalent
8- Less than high school

Work Experience Codes	
≥5 years	5 years or more experience in a related occupation or field is common.
<5 years	Less than 5 years experience in a related occupation or field is common.
None	No work experience is typically required.

Attachment C

Advisory Committee Meeting Minutes



Imperial Valley College

Automotive Technology Program
Local Program Advisory Committee

ADOPTED MINUTES

Thursday, April 26, 2012

BUSINESS/INDUSTRY REPRESENTATIVES

Carlos Araiza, Gonzo Machine Shop	Jose Perez, J& D Auto Repair
Marco Aranda, O'Reilly Auto Parts	Miguel Perez, Rogers and Rogers Toyota
Taylor Coldwell, Rogers & Rogers Toyota	John Rahiotis, Car Quest Auto Parts
Daniel Lamas, D & L Automotive	Arturo Rodriguez, O'Reilly's Auto Parts
Alex Morales, Schaeffer's Specialized Lubricant	Juan C. Trujillo, O'Reilly's Auto Parts
Jeff Watts, O'Reilly's Auto Parts	

IMPERIAL VALLEY COLLEGE REPRESENTATIVES

Frances Arce-Gomez, Staff Secretary	Jose Plascencia, Counselor
Jose Lopez, ITEC Department Chair	Ricardo Pradis, Automotive Technology Instructor
Joe Espinoza, Student Employment Specialist	Patricia Robles, Administrative Secretary
David Martinez, Adjunct Instructor	Nancy Sanchez, Tool Room Technician

I. **MEETING CALLED TO ORDER BY ALEX MORALES AT 11:55 AM.**

II. **WELCOME**

All in attendance were welcomed by Alex Morales.

III. **INTRODUCTIONS**

Alex Morales introduced himself and gave a brief history of the Automotive Advisory Committee. He stated that in the past the committee was very active and accomplished the following:

- Had a strong committee with up 52 members
- Attended board meetings when VATEA monies were going to other departments
- Bought a lot of materials
- Upgraded shop equipment

All committee members introduced themselves.

IV. **APPROVAL OF DECEMBER 8, 2011 MINUTES**

M/S/C Miguel Perez/John Rahiotis to approve minutes as submitted.

V. **DIESEL TECHNOLOGY CERTIFICATE**

Carlos Araiza is currently in the process of creating a Diesel Technology Certificate. He has written a first draft and wanted some feedback from the committee. They discussed the following:

- There is a high demand for diesel courses
- There are good employment opportunities in the diesel field
- Some industry employees are retiring and companies are in need of new employees
- Some diesel students have parents who are farmers
- Some companies are offering to take student volunteers
- The diesel program will increase enrollment
- There is a big demand for qualified mechanics
- There is a shortage of diesel mechanics
- Diesel trucks will need to be equipped with catalytic converters
- Old semi trucks will not be accepted in California

Mr. Araiza also asked the committee if it was a good idea to create a Diesel Technology Certificate.

M/S/C Greg Stevenson/Juan C. Trujillo to have Carlos Araiza create a Diesel Technology Certificate.

VI. **WIA PROGRAM SMOG TECHNICIAN**

Jose Lopez informed the committee that the WIA Smog Technician classes are currently in progress. The following was discussed:

- The students participating in the WIA Smog Program will earn 17 units of credits
- The students participating the WIA Smog Program have to complete 522 hrs of internship training
- The internship training hours will be completed by October 2012
- One smog machine was purchased with WIA funds

VII. **DISCUSSION AND APPROVAL OF 2012-2013 PERKINS REQUESTS (\$22,100)**

M/S/C Miguel Perez/Arturo Rodriguez to approve Perkins funds be used to fund the following requests:

- Professional Development \$4,000
- Student Fieldtrips \$ 2,000
- Projectors \$3,600
- Equipment, Testers, and Tools \$10,000
- Media \$2,500

VIII. **AUTOMOTIVE TECHNOLOGY PROGRAM STATUS (NATEF)**

The automotive faculty reported the following:

- The deficiencies in the NATEF report were addressed
- Each semester the automotive class schedule is flexible
- Courses are taught in the day, evening, and on weekends

IX. **GOOD OF THE ORDER**

The Automotive Service Excellence testing was discussed. The Automotive Program is no longer hosting the ASE testing. Due to the requirements being changed there is currently no space available for testing.

Daniel Llamas stated that electrical knowledge is needed for all automotive equipment.

Jose Plascencia informed the committee that Cal Grants for vocational educational students are available. Mr. Plascencia also stated that Cal Grant C is for vocational educational students.

Ricardo Pradis thanked the committee for taking the time to attend the meeting.

X. **NEXT MEETING**

The next meeting will be scheduled for fall 2012

X. **THE MEETING WAS ADJOURNED BY ALEX MORALES AT 12:50 PM**



Imperial Valley College

**AUTOMOTIVE TECHNOLOGY
Local Program Advisory Committee**

ADOPTED MINUTES

WEDNESDAY, OCTOBER 3, 2012

**Industrial Technology
Room 1101**

BUSINESS/INDUSTRY REPRESENTATIVES PRESENT

Marco Aranda, O'Reilly Auto Parts	Jesus Lopez, Jesus Shop
Ed Brown, Jordan/Central Implement Co.	Rafael Martinez, Pep Boys
George Caldwell, Rogers & Rogers Toyota	Francisco Melendrez, O' Reilly Auto Parts
Angel Castaneda, Napa Auto Parts	Alex Morales, Schaeffer Oils (Chair)
Taylor Codwell, Rogers & Rogers Toyota	Jose Preciado, Rogers & Rogers Toyota
Jose Felix, Rogers & Rogers Toyota	Dennis Sprong, Snap-on Tools
Abraham Guluarte, Consolidated Electrical Distributors	Brian Stranahan, Matco Tools

IMPERIAL VALLEY COLLEGE REPRESENTATIVES PRESENT

Carlos Araiza, Auto Tech Instructor	Jose Perez, Auto Tech Instructor
Joe Espinoza, Student Employment Instructor	Jose Plascencia, Counselor
Ronnie Garrie, Auto Tech Instructor	Ricardo Pradis, Auto Tech Instructor
Jorge Guluarte, Tool Room Technician	Nancy Sanchez, Tool Room Technician
Jose Lopez, ITEC Department Chair	Patricia Robles, Administrative Secretary (Recorder)
David Martinez, Auto Tech Instructor	Efrain Silva, Dean of Economic & Workforce Development
Jim Pendley, Retired Instructor	Jose Velasquez, Building Construction Tech Instructor

I. Call to Order

The meeting was called to order by Alex Morales at 11:58 am.

II. Welcome

Alex Morales welcomed the new members.

III. Introductions

All members present introduced themselves.

IV. Approval of April 26, 2012 Minutes

M/S/C Marco Aranda/Alex Morales to approve the minutes of April 26, 2012 as presented.

V. Approval of Diesel Program (Carlos Araiza)

M/S/C Dennis Sprong/Marco Aranda to approve the proposed Diesel Program as modified and with the opportunity for further changes.

Carlos Araiza gave an update on the new proposed Diesel Program Certificate Program.

HISTORY: Carlos Araiza reported that two years ago diesel classes were taught at IVC through a One Stop program. He was then able to begin obtaining industry contacts, such as dealers and farmers.

BUDGET: The program allowed for the purchase of some start-up equipment. Alex Morales liked that tools were provided to the students at the completion of the program; however, due to uncertainties with the budget, we are not sure if we would be able to do this. Efrain Silva said that if there were a new opportunity to apply for another Workforce Investment Act (WIA) training program grant in Diesel, that we would apply; however, he stated that WIA funding has been reduced significantly and he does not believe another such opportunity will arise soon.

CURRICULUM: Carlos Araiza said that the Diesel Program will include more than just repair; it will include familiarization with the entire system and how it works. Ed Brown would like to add a hydraulic component. Although replacing equipment has become more popular than repairing, students still need to know how to diagnose problems and fix them. Taylor Codwell would like to add an alternative fuels component.

Efrain Silva referred everyone to a handout that listed the required courses (22 units) and the course descriptions. General Ed courses are not required, since it will not be offered as a degree program. Jose Lopez said that students should be able to complete the program in as little as three semesters. Students will be required to complete an internship. Marco Aranda thinks the Employment Readiness course is extremely important.

Dennis Sprong said that some of the proposed course titles should align better with ASE certifications.

STUDENTS: Carlos Araiza reported that there is a high demand for diesel courses. Ed Brown added that some of these courses will be beneficial to current employees, companies could pay for their employees course fees. Students will range from beginners to intermediate to advanced. In the end, students should be finishing the program prepared to pass the ASE exam in this area. Dennis Sprong reminded everyone that students would be finishing as entry-level technicians, not as journeyman technicians, but if they work they can get service credit towards a journeyman technician program, so this is a great start for those that would like to continue past this program. It was mentioned that companies want the students to have basic knowledge and they like to train them further themselves.

TIMELINE: Jim Pendley asked for a timeline. Efrain Silva said that this advisory committee would have to approve the final proposed Diesel Technology program. Then it would go to the IVC Curriculum Committee, the IVC Academic Senate, the ICCD Board, the CA State Chancellor's Office, and the Commission of Accreditation. The goal is to begin the program by fall 2013.

VI. Automotive Technology Program Update

➔ New Certificates

M/S/C Francisco Melendrez/Marco Aranda to proceed with changing the Automotive Technology certificate program to include the following certificates:

1. Engine Repair and Machinist
2. Brakes, Suspension, Steering and Wheel Alignment
3. Engine Performance and Drive Specialist
4. Automotive Transmissions
5. Electrical/Electronics and Air Conditioning

➔ Program Update

Proposed Modifications to Automotive Program (Outline and Timeline)

Jose Lopez said that about 10-14 Auto Tech classes are offered per semester. He said that we have a flexible schedule, offering courses in the day, evening, and weekends.

Efrain Silva explained that the current program is too long (39 units). This has caused our completion rate to be very low. There is a proposal to break down the current Auto Tech Program into smaller programs. The revised program would offer several program options, each about 18 units. Jose Plascencia stated that the California State Chancellor's Office has a requirement of the minimum number of units that a certificate program must have; therefore, we are unable to offer a certificate program with less than the requirement.

Dennis Sprong thinks the certificate program breakdown is a good idea. However, he would like to keep the degree program as is. He also would like the titles of the programs to mirror the ASE titles.

➔ NATEF Certification

Efrain Silva thanked the Automotive Technology faculty members for their assistance in getting IVC NATEF certified. He also thanked the staff that helped clean up the shop. Ricardo Pradis thanked the administration, faculty, counselors, and advisory committee for their assistance. Certificates were given to two of the NATEF evaluators, Rafael Martinez and Jesus Lopez.

➔ ASE Exams

Efrain Silva reported that IVC is now an ASE test center and the 1st exam will be given today at 1pm. Students can go to the ASE website to register for an exam.

VII. Validation of Automotive Program Curriculum

Efrain Silva informed the members that this committee must approve the curriculum and/or make recommendations for revisions. Changes to the curriculum cannot go forward without this committee's approval.

VIII. Industry Input

➔ Automotive Collision Repair

Alex Morales would like to bring the Auto Body program back. Efrain Silva stated that due to the current budget situation, at this time we cannot bring it back.

IX. Good of the Order

➔ New CTE Building

Efrain Silva said that construction has begun on the new CTE Building, which should be ready for use by fall 2014. After Welding moves to the new building, the current Welding area will be used for the new Diesel Technology program. The Auto Tech lab will also be remodeled.

X. Next Meeting
No discussion.

XI. Adjourn
The meeting was adjourned at 12:57 pm by Alex Morales.

Attachment D

Institution Approvals

**IMPERIAL VALLEY COLLEGE
CURRICULUM COMMITTEE
ADOPTED MINUTES
REGULAR MEETING
THURSDAY DECEMBER 6, 2012
3:05 p.m. – Board Room**

Present:	Tina Aguirre	Kathy Berry	Craig Blek	Rick Castrapel
	David Drury	Daniel Gilison	Carol Hegarty	Michael Heumann
	Jose Lopez	Norma Nava	Norma Nunez	Leticia Pastrana
	Veronica Soto	Kevin White	David Zielinski	
Consultants:	Gloria Carmona	Ted Cesar	Efrain Silva	Sydney Rice
Absent:	James Patterson	Jose Ruiz	Lisa Tylenda	Cathy Zazueta
Visitors:	Trinidad Argüelles			
Recorder:	Dixie Krimm			

I. Opening of the Meeting

A. Call to order

Michael Heumann called the regular meeting of the Imperial Valley College Curriculum Committee to order at 3:05pm on Thursday, December 6, 2012.

B. Approval of the Minutes

1. Regular Meeting of November 15, 2012

M/S (Gilison/Aguirre) to approve the minutes of the November 15, 2012, regular meeting of the Curriculum Committee, as presented. The motion carried.

C. Student Learning Outcomes – Sydney Rice

We are at 100% SLO Identification for active courses. There have been changes in all departments; part time faculty are on board and working on SLO's, revisions and assessments. PLO identification process is almost complete; 3 PLO's are being identified for degrees and certificates; working on putting a link in the electronic catalog program pages to course CORs. The PLOs will be added to the major sheets hopefully by the next catalog printing. Training on assessments coming next semester; will be looking at identification and assessment terminology.

Efrain Silva – with the identification of PLOs the descriptions for apprenticeship programs were looked at and will undergo revision.

Sydney – this has been an opportunity to look at programs using the data to make revisions.

II. Action Items

A. Credit Courses

1. Revised Courses

a. ENGL 226 – Introduction to Mythology (3)

b. HUM 226 – Introduction to Mythology (3)

M/S (Gilison/Drury) to approve the revision of the textbooks for ENGL 226 and HUM 226, effective Spring 2013, as presented. The motion carried.

c. MATH 081 – Beginning Algebra (4)

d. MATH 091 – Intermediate Algebra (5)

M/S (Aguirre/Gilison) to approve the revision of the core content for MATH 081 and MATH 091, effective 2013-2014, as presented. The motion carried.

2. New Courses

a. AU T 140 – Diesel Engine Maintenance and Repair (5)

b. AU T 165 – Diesel Preventive Maintenance and Inspection (5)

c. AU T 285 – Alternative Fuels for Diesel Engine (4)

M/S (Aguirre/Drury) to approve the addition of AU T 140, AU T 165, and AU T 285, to the credit curriculum, effective 2013-2014, as presented. The motion carried.

B. Degrees and Certificates

1. Revised Degrees and Certificates

- a. Administration of Justice for Transfer Major Degree
- b. Administration of Justice Degree and Certificate
- c. Agricultural Business Management Degree and Certificate
- d. Agricultural Crop Science Certificate
- e. Agricultural Science Degree
- f. Alcohol and Drug Studies Degree and Certificate
- g. Anthropology Degree
- h. Art Degree
- i. Automotive Technology Degree and Certificate
- j. Behavioral Science Degree
- k. Building Construction Technology Degree and Certificate
- l. Building Construction Technology: Carpentry Specialization Certificate
- m. Building Construction Technology: Concrete Masonry Specialization Certificate
- n. Business Accounting Technician Degree and Certificate
- o. Business Administration for Transfer Degree
- p. Business Administration Degree
- q. Business Administrative Assistant Degree and Certificate
- r. Business Financial Services Degree and Certificate
- s. Business Management Degree and Certificate
- t. Business Marketing Degree and Certificate
- u. Business Office Technician Degree and Certificate
- v. Child Development Degree
- w. Child Development – Administration Specialization Certificate
- x. Child Development – Associate Teacher Certificate
- y. Child Development – Infant/Toddler Specialization Certificate
- z. Child Development – School Age Specialization Certificate
- aa. Cisco CCNA Discovery Degree and Certificate
- ab. Communication Studies for Transfer Degree
- ac. Communication Arts Degree
- ad. Computer Information Systems Degree
- ae. Computer Science Degree
- af. Court Services Specialist Certificate

- ag. Dental Assistant Degree and Certificate
- ah. Early Childhood Education for Transfer Degree
- ai. Electrical Technology: Electrical Wiring Specialization Certificate
- aj. Electrical Technology: Electronics Specialization Certificate
- ak. Electrical Technology: Solar Energy Specialization Certificate
- al. Emergency Medical Services Degree and Certificate
- am. English for Transfer Degree
- an. English Degree
- ao. ESL Program
- ap. Fire Technology Degree and Certificate
- aq. Firefighter I Certificate
- ar. French Degree
- as. General Science Degree
- at. History Degree
- au. Human Relations Degree and Certificate
- av. Humanities Degree
- aw. Journalism Degree
- ax. Legal Assistant Degree and Certificate
- ay. Life Science Degree
- az. Mathematics for Transfer Degree
- ba. Mathematics Degree
- bb. Medical Assistant Certificate
- bc. Multimedia and Web Development Degree and Certificate
- bd. Music Degree
- be. Nursing – R.N. (Associate Degree)
- bf. Nursing – V.N. (Vocational) Degree and Certificate
- bg. Pharmacy Technician Degree and Certificate
- bh. Physical Education Degree
- bi. Physical Science Degree
- bj. Pre-Engineering Degree
- bk. Psychology Degree
- bl. Social Science Degree
- bm. Spanish – Native Speaker Degree
- bn. Spanish – Non-Native Speaker Degree
- bo. Water Treatment Systems Technology Degree and Certificate

M/S (Gilison/Drury) to approve the addition of PLO's to the above degrees and certificates a. thru bo., effective 2012-2013, as presented. The motion carried.

2. New Certificate

a. Diesel Farm Machinery and Heavy Equipment Technician Certificate

M/S (Aguirre/Drury) to approve the addition of the Diesel Farm Machinery and Heavy Equipment Technician Certificate to the credit programs, effective 2013-2014, as presented. The motion carried.

Daniel Gilison asked if the previously requested moratorium on new programs was lifted since the passing of Prop 30. Kathy clarified that even though Prop 30 passed we need to be careful with program creation going forward.

Leticia Pastrana asked how maintenance of the equipment for this certificate would be provided. Efrain stated that Perkins funding would be used to maintain the equipment.

III. Discussion Items

The letter from ACCJC included in the agenda packet was discussed. The commission stated that the request for DE programs were approved pending additional information on pedagogy training for faculty.

IV. Information Items

1. AAT/AST Degrees and C-ID (Memo) – Kathy Berry

Follow up from discussion at the last meeting (11/15/12) regarding the transfer degrees and C-ID.

Kathy reviewed important deadlines as noted below from the memo:

TIMELINE TO AMEND ACTIVE AA-T AND AS-T DEGREES

The initial set of AA-T and AS-T implementation instructions permitted community colleges to self-certify that courses listed by the college on the AA-T and AS-T TMC template aligned with the C-ID descriptor. It also permitted the use of course-to-course articulation with one California State University in lieu of an approved C-ID descriptor. In an effort to assure statewide articulation and to better align the implementation of AA-T and AS-T degrees, colleges are now required to adopt C-ID descriptors where applicable. Colleges may no longer use articulation in lieu of an approved C-ID descriptor. Articulation will only be permitted if no C-ID descriptor exists. Colleges will need to review and amend all active AA-T and AS-T degrees where “self-certification” of C-ID was used and where course-to-course articulation was used in lieu of a C-ID descriptor.

NEW AA-T AND AS-T DEGREE APPROVAL PROCESS

Effective January 1, 2013, all AA-T and AS-T proposals submitted to the Chancellor’s Office for review and approval must demonstrate that courses included in the degree have been submitted for C-ID numbers, where descriptors exist. The course’s C-ID number may be in pending or final status. Articulation may only be used for courses where no C-ID descriptor exists.

REPLACE SELF-CERTIFICATION WITH C-ID EXISTING AA-T AND AS-T DEGREES

By June 1, 2013, for any existing AA-T and AS-T degrees that included a self-certification that a course or courses matched a C-ID descriptor, colleges are required to submit those courses for C-ID approval where descriptors exist.

REPLACE ARTICULATION WITH AA-T AND AS-T WITH PENDING C-ID NUMBERS

By June 1, 2014, colleges must replace all course-to-course articulation used for all AA-T and AS-T degrees by showing that all course(s) have awarded pending or final C-ID status. Articulation may only be used where no C-ID descriptor is available. The Chancellor’s Office will begin deactivating all noncompliant AA-T and AS-T degrees beginning June 2014 that do not have approved C-ID numbers for courses where descriptors exist.

V. Other Items

None

VI. Next Regular Meeting: JANUARY 17, 2013, 3:05pm in the Board Room.

VII. The meeting adjourned at 3:22 p.m.

**Agenda Item Details**

Meeting Feb 20, 2013 - Board of Trustees Regular Meeting, 6:00 P.M.
Category 9. ACADEMIC SERVICES
Subject 9.3 Resolution No. 15625: Major, Certificate, Course Additions and Deletions
Type Action

WHEREAS, new programs, deleted programs and new courses within the programs have been approved by the Curriculum Committee and instructional administration, and satisfy all applicable requirements of Title 5 regulations. All factors, taken as a whole, support the establishment and maintenance of the proposed instructional programs and courses.


BE IT RESOLVED that the Board approves the recommendation of the Curriculum Committee (12/06/12) and the Academic Senate (02/06/13), with the consent of the Superintendent/President, as follows:

New Credit Courses

AU T 140 – Diesel Engine Maintenance and Repair (5)
AU T 165 – Diesel Preventive Maintenance and Inspection (5)
AU T 285 – Alternative Fuels for Diesel Engine (4)

New Certificate

Diesel Farm Machinery and Heavy Equipment Technician Certificate

 022013 - Academic Services - Diesel Farm Machinery and Heavy Equipment Technician Program Narrative - 12-06-12.pdf (298 KB)

Motion & Voting

Resolution No. 15625: Major, Certificate, Course Additions and Deletions

Motion by Rudy Cardenas, second by Louis Wong.

Final Resolution: Motion Carries

Yes: Juanita Salas, Rudy Cardenas, Jerry Hart, Karla Sigmond, Steve Taylor, Louis Wong

Not Present at Vote: Romualdo Medina

**CALIFORNIA COMMUNITY COLLEGES
CHANCELLOR'S OFFICE**

1102 Q street
Sacramento, Ca 95811-6549
(916) 445-8752
<http://www.cccco.edu>



05/02/2013

ADMIN, IMPERIAL VALLEY
College CIO
IMPERIAL VALLEY

Dear Colleague:

In compliance with California Education Code section 70901 and California Code of Regulations, Title 5, Subchapter 2. Approval by the Chancellor, the California Community Colleges Chancellor's Office Academic Affairs Division has reviewed and approved the following instructional program:

CURRICULUM INVENTORY RECORD

College: 031

Credit Status: Credit

Program Title: Diesel Farm Machinery and Heavy Equipment Technician

Program Award: Certificate of Achievement: 18 or greater semester (or 27 or greater quarter) units

Program Control Number: 31878

TOP Code: 094700

Program Goal(s): Career Technical Education (CTE)

For a program to be recognized by the U.S. Department of Education, the Accrediting Commission for Community and Junior Colleges/Western Association of Schools and Colleges (ACCJC/WASC) must approve the program as a substantive change. Once a program is approved by the California Community Colleges Chancellor's Office (CCCCO), colleges must follow the steps outlined in the ACCJC Manual (www.accjc.org). Please note: colleges are not eligible to collect state apportionment or federal support for granting this award without first receiving approval from the Chancellor's Office and the ACCJC.

For questions regarding this review please submit your written inquiry to curriculum@ccco.edu.

Sincerely,

Academic Affairs Division
California Community Colleges Chancellor's Office

Attachment E

Automotive Technology Budget 2014-2015

FYRODTL - Operational Ledger Detail Report

FY/PRD: 15 - 13	YTD/Curr: Y	FUND: %	ORGN: 334%	ACCT:%	PROG:%	REV: N	BEN: Y	ATYP: %	
FUND	ORGN	ACCT	PROG	Account Title	BUDG	YTD	Commit	Avail	
12164	334	4210	0900	Books	\$4,800.00	\$0.00	\$0.00	\$4,800.00	
12164	334	4320	0900	Instructional Supplies and Material	\$2,000.00	\$0.00	\$0.00	\$2,000.00	
12164	334	4340	0900	Media Materials	\$400.00	\$0.00	\$0.00	\$400.00	
12164	334	4455	0900	Copying/Printing	\$17.00	\$0.00	\$0.00	\$17.00	
12164	334	5440	6190	Student Insurance Expense	\$600.00	\$0.00	\$0.00	\$600.00	
12164	334	5625	6010	Indirect Cost Expense	\$5,679.00	\$0.00	\$0.00	\$5,679.00	
12164	334	5630	0900	Facility/Equipment Rental Expense	\$1,120.00	\$0.00	\$0.00	\$1,120.00	
12164	334	5890	0900	Other Expense	\$1,704.00	\$0.00	\$0.00	\$1,704.00	
12164	334	5890	6190	Other Expense	\$360.00	\$0.00	\$0.00	\$360.00	
WIA C Brakes) ***** Automotive Tech					\$28,416.00	\$0.00	\$0.00	\$28,416.00	
15616	334	4320	0900	Instructional Supplies and Material	\$1,650.60	\$1,650.60	\$0.00	\$0.00	
15616	334	6490	0900	Equipment - New Eqp under 5000	\$6,115.08	\$4,792.99	\$0.00	\$1,322.09	
15616	334	6590	0900	Capital Equipment DEP Asset	\$17,233.94	\$17,233.94	\$0.00	\$0.00	
CTE Enhancement ***** Automotive Tech					\$24,999.62	\$23,677.53	\$0.00	\$1,322.09	
16301	334	4320	0900	Instructional Supplies and Material	\$648.00	\$0.00	\$0.00	\$648.00	
16301	334	6490	0900	Equipment - New Eqp under 5000	\$9,600.00	\$9,600.00	\$0.00	\$0.00	
IELM ***** Automotive Tech					\$10,248.00	\$9,600.00	\$0.00	\$648.00	
163018	334	6590	0900	Capital Equipment DEP Asset	\$4,072.01	\$4,072.01	\$0.00	\$0.00	
IELM C/O ***** Automotive Tech					\$4,072.01	\$4,072.01	\$0.00	\$0.00	
17620	334	2301	6190	Student Salaries	\$555.00	\$240.00	\$0.00	\$315.00	
17620	334	3620	6190	Workers' Comp - Classified	\$5.64	\$2.48	\$0.00	\$3.16	
17620	334	4320	6190	Instructional Supplies and Material	\$1,828.43	\$0.00	\$0.00	\$1,828.43	
17620	334	4401	6190	Other Supplies	\$919.00	\$908.71	\$0.00	\$10.29	
Foundation ***** Automotive Tech					\$3,308.07	\$1,151.19	\$0.00	\$2,156.88	
***** Report Total					\$452,786.98	\$382,849.48	\$0.00	\$69,937.50	

FYRODTL - Operational Ledger Detail Report

FY/PRD: 15 - 13 YTD/Curr: Y FUND: % ORGN: 334% ACCT:% PROG:% REV: N BEN: Y ATYP: %

FUND	ORGN	ACCT	PROG	Account Title	BUDG	YTD	Commit	Avail
11001	334	1110	0900	Instruction Regular Salaries	\$106,613.00	\$109,893.85	\$0.00	(\$3,280.85)
11001	334	1270	6190	Chair/Coordinator Salaries	\$58,193.00	\$58,192.20	\$0.00	\$0.80
11001	334	1330	0900	Adjunct Faculty Salaries	\$56,160.00	\$37,800.00	\$0.00	\$18,360.00
11001	334	1340	0900	Overload Full-Time Faculty Salaries	\$37,412.00	\$24,829.20	\$0.00	\$12,582.80
11001	334	3110	0900	STRS Certificated Instructional	\$16,515.26	\$14,840.48	\$0.00	\$1,674.78
11001	334	3111	6190	STRS Certificated Non instructional	\$4,800.92	\$5,167.44	\$0.00	(\$366.52)
11001	334	3310	0900	FICA-Certificated	\$0.00	\$334.79	\$0.00	(\$334.79)
11001	334	3330	0900	Medicare-Certificated	\$2,902.68	\$1,663.68	\$0.00	\$1,239.00
11001	334	3331	6190	MEDICARE Certificated Non instructi	\$843.80	\$0.00	\$0.00	\$843.80
11001	334	3410	0900	H&W - Certificated Instructional	\$22,759.00	\$22,471.12	\$0.00	\$287.88
11001	334	3411	6190	H&W - Certificated Noninstructional	\$11,273.00	\$11,138.46	\$0.00	\$134.54
11001	334	3510	0900	SUI - Certificated	\$100.09	\$85.97	\$0.00	\$14.12
11001	334	3511	6190	SUI - Certificated Non instruction	\$29.10	\$28.80	\$0.00	\$0.30
11001	334	3610	0900	Workers' Comp - Certificated	\$2,066.49	\$1,777.24	\$0.00	\$289.25
11001	334	3611	6190	Workers' Comp - Certificated Non in	\$601.89	\$595.80	\$0.00	\$6.09
11001	334	4220	0900	Magazines, Periodicals, CD's	\$212.00	\$0.00	\$0.00	\$212.00
11001	334	4455	0900	Copy ing/Printing	\$934.50	\$1,588.19	\$0.00	(\$653.69)
11001	334	4460	0900	Office Supplies	\$37.50	\$0.00	\$0.00	\$37.50
11001	334	4465	0900	Auto Repair Parts	\$72.00	\$0.00	\$0.00	\$72.00
11001	334	5310	0900	Memberships and Dues	\$250.00	\$200.00	\$0.00	\$50.00
11001	334	5640	0900	Equipment Repairs	\$76.50	\$0.00	\$0.00	\$76.50
District (Fall/Spring) ***** Automotive Tech					\$321,852.73	\$290,607.22	\$0.00	\$31,245.51
11002	334	1320	0900	FT Summer Teaching	\$14,135.00	\$10,816.96	\$0.00	\$3,318.04
11002	334	3110	0900	STRS Certificated Instructional	\$1,166.14	\$960.55	\$0.00	\$205.59
11002	334	3330	0900	Medicare-Certificated	\$204.96	\$55.86	\$0.00	\$149.10
11002	334	3510	0900	SUI - Certificated	\$7.07	\$5.41	\$0.00	\$1.66
11002	334	3610	0900	Workers' Comp - Certificated	\$145.59	\$111.85	\$0.00	\$33.74
11002	334	4320	0900	Instructional Supplies and Material	\$600.00	\$297.96	\$0.00	\$302.04
11002	334	4455	0900	Copy ing/Printing	\$300.00	\$31.27	\$0.00	\$268.73
District (Summer) ***** Automotive Tech					\$16,558.76	\$12,279.86	\$0.00	\$4,278.90
11502	334	4320	0900	Instructional Supplies and Material	\$11,543.00	\$10,588.80	\$0.00	\$954.20
Lottery ***** Automotive Tech					\$11,543.00	\$10,588.80	\$0.00	\$954.20

FYRODTL - Operational Ledger Detail Report

FY/PRD: 15 - 13	YTD/Curr: Y	FUND: %	ORGN: 334%	ACCT:%	PROG:%	REV: N	BEN: Y	ATYP: %	
FUND	ORGN	ACCT	PROG	Account Title	BUDG	YTD	CommIt	Avail	
11701	334	1325	0900	FT Winter Teaching	\$8,599.50	\$8,599.50	\$0.00	\$0.00	
11701	334	3110	0900	STRS Certificated Instructional	\$709.50	\$763.64	\$0.00	(\$54.14)	
11701	334	3330	0900	Medicare-Certificated	\$124.70	\$0.00	\$0.00	\$124.70	
11701	334	3510	0900	SUI - Certificated	\$4.30	\$4.27	\$0.00	\$0.03	
11701	334	3610	0900	Workers' Comp - Certificated	\$88.58	\$88.13	\$0.00	\$0.45	
11701	334	4320	0900	Instructional Supplies and Material	\$500.00	\$0.00	\$0.00	\$500.00	
11701	334	4455	0900	Copy Ing/Printing	\$150.00	\$126.15	\$0.00	\$23.85	
District C/Winter				***** Automotive Tech	\$10,176.58	\$9,581.69	\$0.00	\$594.89	
12101	334	2301	6190	Student Salaries	\$3,616.30	\$3,411.00	\$0.00	\$205.30	
12101	334	3620	6190	Workers' Comp - Classified	\$48.00	\$35.28	\$0.00	\$12.72	
12101	334	4320	6190	Instructional Supplies and Material	\$3,011.85	\$3,011.85	\$0.00	\$0.00	
12101	334	4401	6710	Other Supplies	\$368.48	\$368.47	\$0.00	\$0.01	
12101	334	4480	6190	Hospitality	\$579.94	\$579.94	\$0.00	\$0.00	
12101	334	5220	6750	Travel - Staff Conferences	\$3,309.37	\$3,309.37	\$0.00	\$0.00	
12101	334	5625	6010	Indirect Cost Expense	\$1,047.00	\$944.00	\$0.00	\$103.00	
12101	334	5890	6750	Other Expense	\$125.00	\$125.00	\$0.00	\$0.00	
12101	334	5890	6190	Other Expense	\$525.00	\$525.00	\$0.00	\$0.00	
12101	334	6490	6190	Equipment - New Eqp under 5000	\$7,524.35	\$7,524.35	\$0.00	\$0.00	
12101	334	6502	6190	Capital Software	\$1,456.92	\$1,456.92	\$0.00	\$0.00	
Herkins				***** Automotive Tech	\$21,612.21	\$21,291.18	\$0.00	\$321.03	
12164	334	1390	0900	Instr - Prof Exp/Extra Duty Agmt	\$7,920.00	\$0.00	\$0.00	\$7,920.00	
12164	334	2120	6190	Secretarial/Clerical Salaries	\$791.00	\$0.00	\$0.00	\$791.00	
12164	334	2301	6190	Student Salaries	\$1,620.00	\$0.00	\$0.00	\$1,620.00	
12164	334	3110	0900	STRS Certificated Instructional	\$792.00	\$0.00	\$0.00	\$792.00	
12164	334	3220	6190	PERS Classified Noninstructional	\$95.00	\$0.00	\$0.00	\$95.00	
12164	334	3320	6190	FICA -Classified	\$56.00	\$0.00	\$0.00	\$56.00	
12164	334	3330	0900	Medicare-Certificated	\$159.00	\$0.00	\$0.00	\$159.00	
12164	334	3340	6190	Medicare-Classified	\$16.00	\$0.00	\$0.00	\$16.00	
12164	334	3520	6190	SUI - Classified	\$16.00	\$0.00	\$0.00	\$16.00	
12164	334	3530	0900	SUI - Other	\$80.00	\$0.00	\$0.00	\$80.00	
12164	334	3610	0900	Workers' Comp - Certificated	\$159.00	\$0.00	\$0.00	\$159.00	
12164	334	3620	6190	Workers' Comp - Classified	\$32.00	\$0.00	\$0.00	\$32.00	

Attachment F

Board Policy 1200, Mission Statement

**IMPERIAL COMMUNITY COLLEGE DISTRICT
BP 1200 District Mission**

Reference:
WASC/ACCJC Standard One

The Imperial Community College District Mission Statement was adopted by the Board on May 8, 2002, and is as follows:

MISSION STATEMENT

The mission of Imperial Valley College is to foster excellence in education that challenges students of every background to develop their intellect, character, and abilities; to assist students in achieving their educational and career goals; and to be responsive to the greater community.

The mission is evaluated and revised on a regular basis.

No AP

Attachment G

Course Outlines of Record



IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Industrial Technology

DATE October 20, 2011

COURSE TITLE: Engine Technology

COURSE NO.: AUT 110

UNITS: 4.00

LEC HRS: 36.00

LAB HRS: 108.00

CLASS SIZE: 22

If cross-referenced, please complete the following

COURSE NO.(s)

COURSE TITLE

I. COURSE/CATALOG DESCRIPTION

For the student with little or no internal combustion engine background. Design, construction and mechanical function of internal combustion engines including lubricating, cooling fuel and electrical systems; and an understanding of the basic sciences relevant to such topics as internal combustion and energy conversion. (CSU)

II. A. PREREQUISITES, if any:

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade Only

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. formulate and apply safe working practices, in and out of the shop, including fire prevention.
2. recognize and use the automotive tools and equipment that is basic to automotive operation and principles.
3. take apart, analyze and reconstruct the automotive engine.
4. compare and contrast the automotive engine and other engines.
5. explain the electrical and fuel theory.
6. apply the use of the basic tune-up equipment.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
1. Auto shop safety and fire prevention
2. Automotive tools and equipment, fastening devices, measuring instruments.
3. The automotive engine: engine fundamentals, engine construction, engine piston and rings, engine crankshafts and camshafts, engine bearings and valves, engine performance engine lubrication, engine cooling systems

4. Other engines
5. Electrical and fuel theory
6. Use of basic tune-up equipment

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

- Class Activity
- Mid-Term/Final Exam(s)
- Problem Solving Exercise
- Quizzes
- Skill Demonstration
- Written Assignments

VII. INSTRUCTIONAL METHODOLOGY:

- Demonstration
- Discussion
- Group Activity
- Individual Assistance
- Lab Activity
- Lecture
- Simulation/Case Study

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

- Reading and Writing:
Find out about the Stanley Steamer or another steam-driven automobile. Describe to the class how its engine worked. Show a drawing or a photograph, if possible.
- Out-of-class:
Visit an auto dealership and identify the different engine types offered as a standard across the range of automobile models under a single brand name (Ford, Honda, Chrysler, Chevrolet, etc). Write a report on your findings.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

James E. Duffy 2009. *Modern Automotive Technology* 7th Edition. G-W publisher ISBN: 9781590709566.

X. STUDENT LEARNING OUTCOMES:

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as

demonstrated by being able to:

1. Identify and interpret engine concerns; determined necessary action ILO1,ILO2,ILO3
2. Perform cylinder cranking and running compression test; determined necessary action. ILO1,ILO2,ILO3
3. Remove cylinder head; inspect gasket condition; install cylinder head and gasket; tighten according to manufacturer's specifications and procedures. ILO1,ILO2,ILO3
4. Disassemble engine block; clean and prepare components for inspection and reassembly. ILO1,ILO2,ILO3

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IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Industrial Technology

DATE July 01, 2013

COURSE TITLE: Diesel Engine Maintenance and Repair **COURSE NO.:** AU T 140

UNITS: 5.00

LEC HRS: 54.00

LAB HRS: 108.00

CLASS SIZE: 20

If cross-referenced, please complete the following

COURSE NO.(s)

COURSE TITLE

I. COURSE/CATALOG DESCRIPTION

This course provides the theory and skills for repairing diesel engines and related accessories. The proper procedures for disassembling, measuring, and rebuilding are covered. The complete engine is reviewed with emphasis on the status of engine components and to return it to service after proper reassembly, adjustments and testing. (Nontransferable, nondegree applicable)

II. A. PREREQUISITES, if any:

AU T 110

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade Only

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. A. Identify safety procedures and shop equipment operation.
2. B. Apply the proper procedures to use the correct tools.
3. C. Troubleshoot major diesel engine component failures and related units.
4. D. Inspect and repair engine blocks.
5. E. Identify, inspect and repair engine crankshafts.
6. F. Inspect and repair pistons, rings and connecting rods.
7. G. Inspect and repair cylinder heads and components.
8. H. Inspect and repair camshaft and related components.
9. I. Inspect and repair lubrication systems.
10. J. Inspect, service and repair cooling systems.
11. K. Test and troubleshoot engine performance.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
A. Safety procedures and shop Equipment 1. Personal safety and work regulations. 2. Eye protection, hand tools, and power equipment. 3. Proper handling, storage, and disposal of chemicals.

4. Assignments and shop activities
<p>B. Tools and procedures</p> <ol style="list-style-type: none"> 1. Precision tools. 2. Basic math and measuring tools 3. Dial indicators. 4. Special tools for engine disassembly and assembly
<p>C. Identify major diesel components and operation</p> <ol style="list-style-type: none"> 1. Engine basics 2. Diesel engine classification 3. Engine configuration 4. Engine performance and formulas.
<p>D. Diesel engine cylinder blocks</p> <ol style="list-style-type: none"> 1. Block selection 2. Block cleaning, inspection, and preparation 3. Block sonic, Deburring and painting 4. Boring and honing and sleeve selection 5. Liners inspection, installation
<p>E. Diesel engine crankshaft</p> <ol style="list-style-type: none"> 1. Selection and inspection 2. Shot preening and stress relieving. 3. Crankshaft grinding. 4. Cross drilling and chamfering 5. Crankshaft balancing
<p>F. Diesel engine pistons</p> <ol style="list-style-type: none"> 1. Piston selection and compression ration 2. Piston dome shape and clearance/deck height 3. Piston groove, piston pin height, and piston finishing. 4. Rod selection, rod length and rod material. 5. Off-set rods and rod stroke 6. Types of rods and rod balancing
<p>G. Diesel cylinder head and related components</p> <ol style="list-style-type: none"> 1. Cylinder head removal 2. Disassembling 3. Inspection and service 4. Cylinder head damage
<p>H. Diesel engine camshaft and valve train components.</p> <ol style="list-style-type: none"> 1. Camshafts 2. Camshaft lobes 3. Valve train operation 4. Camshaft systems 5. Engine timing
<p>I. Diesel engine lubrication</p> <ol style="list-style-type: none"> 1. Oil temperature/pressure. 2. Engine block lubrication 3. Wet/dry sump systems 4. Filtration systems 5. Oil cooler/filters 6. Types of oil pumps
<p>J. Diesel engine cooling system</p> <ol style="list-style-type: none"> 1. Engine Coolant flow 2. Engine coolant temperature. 3. Water pumps. 4. Fan/radiators 5. Drive belts 6. Overflow systems
<p>K. Testing engine performance and installation</p> <ol style="list-style-type: none"> 1. Engine preparation 2. Engine dynamometer run –in 3. Engine installation

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

Class Activity

Essay

Mid-Term/Final Exam(s)

Objective

Oral Assignments

Problem Solving Exercise

Quizzes

Skill Demonstration

Written Assignments

VII. INSTRUCTIONAL METHODOLOGY:

Demonstration

Discussion

Group Activity

Individual Assistance

Lab Activity

Lecture

Simulation/Case Study

Audio Visual

Computer Assisted Instruction

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

Out-of-class:

1- Students will complete a research volumetric efficiency of diesel engines. 2. Students will research and record engine measurements according to factory specifications. 3. Have them write a short report explaining how volumetric efficiency affects engine power. 4. Students will write a report on diesel tools and equipments.

Reading and Writing:

Students will be required to review all class materials off class including engine fundamentals, construction and diesel engine design.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

Bennett, S. 2012. *Medium/Heavy Duty Truck Engines, Fuel & Computerized Management Systems* 4th. Delmar

Cengage ISBN: 978-1111645694.

Bennett, Sean 2011. *Modern Diesel Technology* First. Cengage Learning ISBN: 13:978-1435480476.

X. STUDENT LEARNING OUTCOMES:

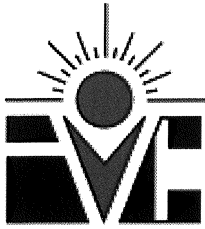
Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Define the terms that describe basic diesel engine operation. (ILO1, ILO2, ILO3)
2. Identify the differences between a: natural aspirated engine and a manifold boosted engine. (ILO1, ILO2, ILO3)
3. Explain how energy of the fuels is converted to kinetic energy. (ILO1, ILO2)
4. Explain engine torque, horsepower, and rating for diesel engines. (ILO1, ILO2, ILO3)
5. Explain volumetric efficiency, thermal efficiency, and total engine power. (ILO1, ILO2, ILO3)

Attached Files

[Prereq Matrix](#)

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IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Industrial Technology

DATE July 01, 2013

COURSE TITLE: Diesel Preventive Maintenance
And Inspection

COURSE NO.: AU T 165

UNITS: 5.00

LEC HRS: 54.00

LAB HRS: 108.00

CLASS SIZE: 22

If cross-referenced, please complete the following

COURSE NO.(s)

COURSE TITLE

I. COURSE/CATALOG DESCRIPTION

The Diesel Preventive Maintenance and Inspection course trains students in: theory, design, operation, troubleshooting and maintenance of heavy duty truck and farm equipment. Upon successful completion of this course, the students are prepared to take the Automotive Service Excellence (ASE) Certification Exam in Preventive Maintenance T8. (Nontransferable, nondegree applicable)

II. A. PREREQUISITES, if any:

AU T 110

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade Only

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. A. Inspect and repair engine systems.
2. B. Inspect and repair cab and hood instruments.
3. C. Check and repair electrical and electronic systems.
4. D. Inspect and repair frame and chassis components.
5. E. Check machine operation and road test.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
A1. ENGINE SYSTEMS
1.1 Check engine operation (noises, vibration, smoke).
1.2 Inspection vibration damper.
1.3 Inspect belts, tensions, pullers and belt tension.
1.4 Check engine oil, coolant, air and fuel leaks.
1.5 Inspection engine mounts.
1.6 Inspection of engine compartment, connectors and seals.
A2. FUEL SYSTEMS
2.1 Inspection fuel tanks, lines and caps

- 2.2 Inspection of throttle linkage and spring.
- 2.3 Drain water from fuel systems.
- 2.4 Inspect water, separator fuel heaters, prime systems.
- 2.5 Inspection, crankcase, and ventilation systems.
- 2.6 Inspection, diesel, and emission control systems.

A3. AIR INDUCTION AND EXHAUST SYSTEMS

- 3.1 Check exhaust system mounting
- 3.2 Checking exhaust systems for leaks, excessive noise, and damage components.
- 3.3 Checking air induction systems, air coolers, clamps and restrictions.
- 3.4 Inspecting turbocharger, noise, leaks, connections waste gate.
- 3.5 Service and repair filters

A4. COOLING SYSTEMS

- 4.1 Checking operation of fan clutch (electric, air, thermostatic).
- 4.2 Inspect radiator, air flow, restriction, leaks and damage.
- 4.3 Inspect fan assembly and shroud.
- 4.4 Pressure test cooling systems.
- 4.5 Inspect cooling systems and clamps.
- 4.6 Inspect cooling recovery systems.
- 4.7 Inspect cooling for contamination.
- 4.8 Service cooling system.
- 4.9 Drain and refill cooling system
- 4.10 inspect water pump, leaks and bearing play.

A5. LUBRICATING SYSTEMS

- 5.1 Change engine oil and filter, oil contamination inspection.
- 5.2 Take engine oil sample.

B1. CAB AND HOOD

- 1.1 Inspect condition of ignition switch
- 1.2 Check operation of indicator lights, and warning lights.
- 1.3 Check operation of instruments, gauges, and panel lights.
- 1.4 Check operation of power take off (pto) and idle speed control.
- 1.5 Check operation of heater, ventilation, and AC controls.
- 1.6 Check operation of accessories.
- 1.7 Check using diagnostic tools check engine tools.

B2. SAFETY EQUIPMENT

- 2.1 Check operation of electronic and air horns.
- 2.2. Check condition of safety equipment, spare, fuses, reflective, triangles and fire extinguisher.
- 2.3. Inspect seats and belts
- 2.4. Inspect wiper blades and arms.
- 2.5 Wiper and washer operation.

B3. HARDWARD

- 3.1 Inspect windshield glass for cracks and chips.
- 3.2 Seat conditions
- 3.3 Check door glass and window operation
- 3.4 Inspect steps and handles
- 3.5 Inspect and record all physical damage.
- 3.6 Inspect cab mounting and linkages.
- 3.7 Inspect hydraulic tilt cab pump.
- 3.8 Check accelerator clutch and brake pedals.

B4. A/C

- 4.1 Inspect A/C condenser.
- 4.2 Inspect compressor and lines for visible leaks.
- 4.3 Check system operation.

C. ELECTRICAL AND ELECTRONIC

1. Inspecting battery and mounting
2. Inspecting battery condition, cables and terminals.
3. Checking battery state of charge.
4. Perform battery state of charge
5. Inspecting start system
6. Charging system
7. Inspecting alternator, mounting and wires.
8. Perform alternator test.
9. Lighting system
10. Inspecting interior lights.
11. Inspecting exterior lights, service as needed
12. Inspecting and test trailer power cord connector.

D. FRAME AND CHASSIS

D1. AIR BRAKES

- 1.1 Check parking brake operation
- 1.2 Check air governor, cut-in, and cut out (psi)
- 1.3 Check service air drier as need it (check purge valve).
- 1.4 Check air system for leaks (release)
- 1.5 Check air system for leaks (applied)
- 1.6. Testing one way and double check valves
- 1.7 Check low air pressure devices
- 1.8 Emergency brake control valve
- 1.9 Check air pressure build up time.
- 1.10 Check condition of hand brake.
- 1.11 Perform antilock brakes system test.
- 1.12 Check coupling air lines, holders and glad hands.
- 1.13 Check brake chambers and air lines.
- 1.14 Check and record front and rear lining ad conditions.
- 1.15 Check condition of front and rear rotors drums.
- 1.16 Check operation and adjustment of front and rear automatic or manual slack adjusters,
- 1.17 Check camshaft and bushing conditions.
- 1.18 Lubricate all brake components.

D2. HYDRAULIC BRAKES

- 2.1 Check master cylinder for leaks and fluid level
- 2.2 Inspect brake lines and filling
- 2.3 Check parking brake operation
- 2.4 Check operation of brake system (pedal travel and pedal feel).
- 2.5 take drive axle oil sample

D3. SUSPENSION AND STEERING

- 3.1 Check steering wheel operation free- play.
- 3.2 Check power steering pump and hoses.
- 3.3 Check power steering fluid and filter.
- 3.4 Inspect steering gear.
- 3.5 Inspect pinch bolts, splices, pitman, drum and tie-rod end.
- 3.6 Check king pin and thrust bearing wear.
- 3.7 Check front and rear wheel bearings.
- 3.8 Check fluid level and condition of the non drive axle hubs.
- 3.9 Inspect front wheel bearings.
- 3.10 Inspect front and rear suspension components.
- 3.11 Inspect shocks absorbers for leaks.
- 3.12 Check suspension ride height.
- 3.13 Check tandem axle spacing.

D4. TIRES AND HEELS

- 4.1 Inspect tires for irregular wear patterns.
- 4.2 Inspect tires for cut cracks and side wall damage.

- 4.3 Inspect wheel calipers for leakage and damage.
- 4.4 Inspect valve cups and stems
- 4.5 Measure tire wear, depth and record tire.
- 4.6 Check air pressure
- 4.7 Re-torque lugs/nuts according with spec.
- 4.8 Inspect wheel and spacers for cracks.
- 4.9 Check tire matching on dual tire installation.
- 4.10 Inspect conditions of brake drums and rotors.
- 4.11 Adjust drum brakes.

D5. DRIVE TRAIN

- 5.1 Check operation of brake clutch
- 5.2 Check clutch linkage, cable and levers.
- 5.3 Check clutch master fluid level.
- 5.4 Check clutch adjustment.
- 5.5 Check transmission case, seals, filters, coolers lines for crack and leaks.
- 5.6 Check transmission wiring, connectors for damage.
- 5.7 Inspect transmission breathers.
- 5.8 Check transmission mounts.
- 5.9 Check transmission fluid level.
- 5.10 Inspect U-joints, yokes, drive lines, and center bearings.
- 5.11 Inspect axle housing for cracks.
- 5.12 Inspect axle breather
- 5.13 Lubricate drive train fittings.
- 5.14 Check drive's axle fluid level.
- 5.15 Check magnetic plug and filter.
- 5.16 Check two speed axle operation and fluid level.
- 5.17 Take transmission oil sample.

D6. FRAME AND 5TH WHEEL

- 6.1 Inspect fifth wheel, mounting bolts, airline, locks and stops.
- 6.2 Test operation of fifth wheel locking device.
- 6.3 Check pintle hook assembly mounting bolts.
- 6.4 Lubricate fifth wheel plate
- 6.5 Inspect frame and frame member for damage.
- 6.6 Inspect body attaching hardware.
- 6.7 Inspect cargo ramps, lift gates, cylinders and hoses.

E. ROAD/OPERATION TEST

- 1. Check operation of clutch and gear shift
- 2. Check operation of all instruments.
- 3. Check steering wheel for play and centering.
- 4. Check rods speed limiter.
- 5. Check cruise controls.
- 6. Check exhaust for excessive smoke
- 7. Test service brake
- 8. Check operation of backup warning.

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

Class Activity

Essay

Mid-Term/Final Exam(s)

Objective

Oral Assignments

Problem Solving Exercise

Quizzes

Skill Demonstration

Written Assignments

VII. INSTRUCTIONAL METHODOLOGY:

Audio Visual

Computer Assisted Instruction

Demonstration

Discussion

Lab Activity

Lecture

Simulation/Case Study

Group Activity

Individual Assistance

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

Out-of-class:

Activity #1 Require the students to visit a farm diesel machinery dealership company and prepare a report in preventive maintenance for diesel units. Activity #2 Library computer assignment. Read, review level I, Level II, and Level III ASE questions.

Reading and Writing:

Reading and Writing Students will be required to read assigned chapters per unit directed by syllabus and instructor. Students will write three pages compare and contrast essay of the techniques used in diesel engine/equipment preventive maintenance inspections.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

Bennett, Sean 2012. *Medium/Heavy Duty Truck Engines, Fuel & Computerized Management Systems* 4th ed.. Delmar Cengage ISBN: 978-1111645694.

Jhon, Dixon 2009. *Preventive Maintenance and Repair* First. Thomson, Del Mar Learning ISBN: 13:978 1418053918.

X. STUDENT LEARNING OUTCOMES:

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Explain how to set up a diesel preventive maintenance inspection program. (ILO1, ILO2, ILO3)
2. Explain how to set up a daily walk around inspection for diesel units. (ILO1, ILO2, ILO3)
3. Describe the proper steps for preparing the diesel equipment for short and long term stationary storage. (ILO1, ILO2, ILO3, ILO4)
4. Describe the use of troubleshooting charts and service information to pinpoint the source of system problems. (ILO1, ILO2, ILO3, ILO4)



IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Industrial Technology **DATE** May 03, 2012

COURSE TITLE: Diesel Engine Tune-Up **COURSE NO.:** AU T 240 **UNITS:** 3.00

LEC HRS: 36.00 **LAB HRS:** 54.00 **CLASS SIZE:** 20

If cross-referenced, please complete the following

COURSE NO.(s) **COURSE TITLE**

I. COURSE/CATALOG DESCRIPTION

This course covers the principles of tune-up and the procedures for servicing the diesel engine. Practical emphasis is placed on proper disassembling, diagnosis, calibrating, and testing different types of pumps and injectors. Proper servicing procedures will be followed in servicing, testing, and analyzing the fuel system and electrical circuits. (CSU)

II. A. PREREQUISITES, if any:

AU T 110

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade Only

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. demonstrate a knowledge of the principles and history of the diesel engine.
2. define the fuel flow through all systems presented.
3. list the proper steps for taking a pump and injector apart with proper care.
4. identify the design and construction of the injector and name the components.
5. properly time and calibrate pumps and injectors.
6. properly mount, time the pump, and bleed the system.
7. diagnose compression problems.
8. analyze smoke problems.
9. demonstrate the proper operating parameters of the fuel system and diagnose problems with the system.
10. demonstrate knowledge of the engine electrical circuits.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
Introduction to principles and history of the diesel engine
Fuel system of the Diesel

Methods for disassembly of fuel pumps and injectors
Nomenclature of the injector and components
Timing and calibration of the pump and injectors
Mounting, timing, and bleeding of the system
Compression problems
Analyzing smoke problems
Diagnosis of fuel system
Engine electrical systems

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

Class Activity

Essay

Mid-Term/Final Exam(s)

Objective

Oral Assignments

Problem Solving Exercise

Quizzes

Skill Demonstration

Written Assignments

VII. INSTRUCTIONAL METHODOLOGY:

Audio Visual

Demonstration

Discussion

Group Activity

Individual Assistance

Lab Activity

Lecture

Simulation/Case Study

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

Out-of-class:

Visit the service manager of a local auto repair shop or auto dealer. Determine what the shop would include in a minor tune-up and a major tune-up.

Reading and Writing:

Taking the information gathered in Activity 1, use a flat rate manual and a parts catalog to determine the cost of a motor tune-up and a major tune-up at a labor rate of \$56 per hour.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

Corinchoch, John; Norman, Andrew 2007. *Diesel Technology: Fundamentals, Service, Repair* 7th edition. Goodheart-Willcox Company ISBN: 978-1590707708.

X. STUDENT LEARNING OUTCOMES:

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. describe the typical difference between a minor tune-up and major tune-up for diesel engines. (ILO1, ILO2, ILO3)
2. identify all the steps or procedures to perform a diesel engine tune-up. (ILO1, ILO2, ILO3)
3. remove and reinstall different types of diesel pumps and injectors. (ILO1, ILO2, ILO3)
4. test, service and analyze the fuel system and electrical circuits. (ILO1, ILO2, ILO3)



IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Industrial Technology **DATE** July 01, 2013

COURSE TITLE: Alternative Fuels for Diesel Engines **COURSE NO.:** AUT 285 **UNITS:** 4.00

LEC HRS: 36.00 **LAB HRS:** 108.00 **CLASS SIZE:** 22

If cross-referenced, please complete the following

COURSE NO.(s) **COURSE TITLE**

I. COURSE/CATALOG DESCRIPTION

This course provides an introduction to various alternative fuel technologies being used in heavy duty diesel engines and farm equipment. This course covers basic operation with ethanol, biodiesel, and compressed natural gas (CNG), as well as liquefied natural gas (LPG) combined with fuel cell technologies. In addition, this course prepares the student to take Exam Certification in alternative fuels (ASE FI). (Nontransferable, nondegree applicable)

II. A. PREREQUISITES, if any:

AU T 110

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade Only

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. Comply with all safety shop procedures associated with the handling of all hazardous materials in according with the regulations.
2. Demonstrate the ability and procedures on Liquid Natural Gas (LNG) and Compress Natural Gas (CNG).
3. Identify the types of tools and equipment needed to use for Compress Natural Gas and Liquid natural Gas. CNG / LNG.
4. Demonstrate the ability of working on hydrogen vehicle.
5. Identify different types of alcohol fuels that used on combustion chamber engines.
6. Demonstrate knowledge and the ability to modify fuels system for internal combustion engines.
7. Identify different types of vehicles with flexible fuel system.
8. Demonstrate the ability for producing and handling biodiesel fuels.
9. Modify engine system for other alternative fuels.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
A. SAFETY PROCEDURES AND SHOP EQUIPMENT
1. Personal safety and work regulations
2. Eye protection, hand tools and power equipment

<p>3. Proper handling, storage and disposal of chemicals 4. Assignments and shop activities</p>
<p>B. SAFETY PRECAUTIONS ON LPG AND CNG 1. What is natural gas? 2. Find a natural gas system. 3. Natural gas vehicle maintenance. 4. What is propane? 5. Find a propane system. 6. Propane vehicle maintenance.</p>
<p>C. TOOLS AND EQUIPMENT CNG/LPG 1. Pros and cons of natural gas 2. Safety and handling both CNG and LPG</p>
<p>D. HYDROGEN VEHICLE FUNCTION 1. What is hydrogen? 2. What is a hydrogen fuel cell? 3. Hydrogen vehicle basics 4. Hydrogen vehicle reviews</p>
<p>E. TYPES OF ALCOHOL FUELS 1. Ethanol 2. Methanol 3. Butanol 4. Biogas</p>
<p>F. FUEL SYSTEMS MODIFICATIONS 1. Engine modification 2. Injection systems 3. Valves 4. Bleeding</p>
<p>G. TYPES OF FLEX FUEL VEHICLES 1. Not a diesel engine 2. Wood gas 3. Bioethanol 4. Electric vehicles</p>
<p>H. BIODIESEL FUEL PRODUCTION 1. Introduction 2. Health and safety 3. Making biodiesel 4. Requirements</p>
<p>I. ENGINE SYSTEM MODIFICATIONS FOR ALTERNATIVE FUELS 1. Advantages and disadvantages of twin tank 2. Commercially available two tank systems 3. One tank system</p>

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

Class Activity

Essay

Mid-Term/Final Exam(s)

Objective

Oral Assignments

Problem Solving Exercise

Quizzes

Skill Demonstration

Written Assignments

VII. INSTRUCTIONAL METHODOLOGY:

Demonstration

Discussion

Group Activity

Individual Assistance

Lab Activity

Lecture

Simulation/Case Study

Audio Visual

Computer Assisted Instruction

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

Out-of-class:

1. Have the student collect literature from different businesses and do a report on alternative fuels for diesel engines and heavy equipment 2-Send the students to a diesel shop to disassemble and reassemble fuels system components. The student will share a class report about the fuel components condition. 3-Have the students use worksheets to do live work under supervision. Students will review the worksheet with the class and instructor.

Reading and Writing:

1. Have the students collect literature and do a research on alternative fuels for diesel engines. 2. Gasoline has around 19,000 BTUS on heat energy, use the internet and other resources to find the heat value of other engine fuel sources, such as diesel, biodiesel, alcohol, hydrogen.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

Bennett, Sean 2012. *Medium/Heavy Duty Truck Engines, Fuel & Computerized Management Systems* 4th ed. Delmar Cengage ISBN: 978-1111645694.

Jon Starbuck, Gavin Harper 2009. *Run Your Diesel Vehicle on Biofuels* FOURTH. MCGRAW-HILL COMPANIES ISBN: 9780071600439.

X. STUDENT LEARNING OUTCOMES:

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Identify alternative fuels for diesel engines, commercial units, and farm equipment.(ILO1, ILO2, ILO3)
2. Describe the characteristics of biodiesel fuel. (ILO1, ILO2, ILO3)
3. Identify some of the advantages and disadvantages of alcohol-based fuels used in commercial and farm equipment. (ILO1, ILO2, ILO3)
4. Explain the reasons why hydrogen may become the fuel of the future. (ILO1, ILO2, ILO4, ILO3)

Attached Files

[Prereq Matrix](#)



IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE
COURSE OUTLINE-OF-RECORD

DIVISION: Business

DATE November 05, 2015

COURSE TITLE: Employment Readiness

COURSE NO.: WE 201

UNITS: 1.00

LEC HRS: 18.00

LAB HRS:

CLASS SIZE: 35

If cross-referenced, please complete the following

COURSE NO.(s)

COURSE TITLE

I. COURSE/CATALOG DESCRIPTION

Skills development in the areas of job search, employer contact, résumé writing, applications and cover letter, interviewing techniques, appropriate dress, job-holding practices and on-site learning objectives. A review of factors relating to or contributing to job success, including motivation, attitude, human relations, leadership, personal, as well as, group relationships, and behavior. (CSU)

II. A. PREREQUISITES, if any:

B. COREQUISITES, if any:

C. RECOMMENDED PREPARATION, if any:

III. GRADING CRITERIA

Letter Grade or Pass/No Pass

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

Upon satisfactory completion of the course, students will be able to:

1. Establish and evaluate individual job objectives.
2. Identify the requirements and expectations of private and public employers.
3. Demonstrate and understanding of the role of motivation on the workplace.
4. Interpret how attitudes influence job performance.
5. Illustrate the importance of human relations in the workplace.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

CORE CONTENT
Establish individual job objectives.
Requirements and expectations of private and public employers
Motivation in the workplace
Job performance
Human relations in the workplace

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS:

Class Activity
Voice Thread

Mid-Term/Final Exam(s)

Skill Demonstration
Mock Interview

Other, please identify
Portfolio

VII. INSTRUCTIONAL METHODOLOGY:

Individual Assistance

Lecture

Simulation/Case Study

Demonstration

Discussion

Distance Learning

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected.

VIII. ASSIGNMENTS:

Reading and Writing:

1. Read "Job Hunting Handbook" carefully and complete responses. 2. Write a three-paragraph autobiography.

Out-of-class:

1. Prepare and type an error-free resume. 2. Assemble an "Employment Preparation" portfolio.

IX. TEXTBOOK(S) AND SUPPLEMENT(S):

Dahlstrom 2010. *Job Hunting Handbook* Dahlstrom ISBN: 9780940712836.

X. STUDENT LEARNING OUTCOMES:

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Identify four measurable on-the-job objectives they will accomplish during their Internship/Work Experience.
(ILO1, ILO2, ILO3, ILO4)

Attachment H

Board Policy 4030, Academic Freedom



IMPERIAL COMMUNITY COLLEGE DISTRICT

BP 4030 Academic Freedom

Reference:

Title 5 Section 50123; Accreditation Standard II.A.7

The CEO shall:

- a. adopt policy statement on academic freedom which shall be made available to faculty and be filed with the Chancellor;
- b. adopt administrative procedures which are consistent with the provisions of Sections 53200-53206, regarding the role of academic senates and faculty councils and are filed with the Chancellor;
- c. substantially comply with District adopted policy and administrative procedures adopted pursuant to subsections (a) and (b).

See AP 4030