

HAWAI`I COMMUNITY COLLEGE  
ANNUAL  
INSTRUCTIONAL PROGRAM REVIEW  
TEMPLATE

Automotive Mechanics  
Technology

November 27, 2013

July 1, 2012 to June 30, 2013

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Program/Unit Review at Hawai'i Community College is a shared governance responsibility related to strategic planning and quality assurance. It is an important planning tool for the college budget process. Achievement of Program/Unit Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college-wide process, the Program/Unit Reviews are available to the college and community at large to enhance communication and public accountability.

# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

**CERC Comments and Feedback** (If you submitted a Comprehensive Program Review in 2011 or 2012, please complete this section)

CERC gave recommendations intended as suggestions for improvement. Provide a brief response to the suggestions made. i.e. Were suggestion(s) valid? Were change(s) made as a result of the suggestion(s)?

N/A

**Program Description** (Use the official description from catalog then give more in depth explanation of what the program does, who it serves and generally describe it's accomplishments)

The program prepares the student for employment as a general mechanic in a service station or auto dealer's shop, or as a specialty mechanic or a specialist on engine tune-ups or electrical systems.

This program has been in existence since 1941 servicing our communities needs in the transportation trades. Graduates have been placed in every facet of the automotive industry. They have found careers in the private sector as well as government agencies. Many have since become employers/managers as they now own and operate businesses of their own which creates an excellent career networking system. Some have ventured to the mainland as well as internationally in Japan, Europe and China.

## Part I: Quantitative Indicators

*NO ENTRY*

## Part II: Analysis of the Program

### Alignment with College Mission and ILOs

Write a brief narrative describing the program and how it supports the College's mission and Institutional Learning Outcomes (ILOs).

College's mission:

*Hawai'i Community College (Hawai'iCC) promotes student learning by embracing our unique Hawai'i Island culture and inspiring growth in the spirit of "E`Imi Pono." Aligned with the UH Community Colleges system's mission, we are committed to serving all segments of our Hawai'i Island community.*

### **Program Mission:**

The mission of the Automotive Technology (AMT) Program is to prepare students for successful employment as an automotive mechanic. The AMT program offers a 48 credit Certificate of Achievement and a 63 credit Associates in Applied Science (AAS) degree. Students completing the AAS degree are ready for the Automotive Service Excellence (ASE)

# HAWAI'I COMMUNITY COLLEGE

## ANNUAL PROGRAM REVIEW TEMPLATE

exam. Although the exam is not a requirement for the program, students are encouraged to take the exam at their expense. The ASE exam is the nationally recognized body for auto technicians.

### **Describe how this program supports the College's mission.**

This program primarily services our local community with a multi-cultural graduating student population that understands, respects and blends extremely well with our local community.

### **Describe how this program supports the College's Institutional Learning Outcomes below.**

ILO 1: Our graduates will be able to communicate effectively in a variety of situations.

*Describe how the Program supports ILO1:*

Communication is the key for success in this program. Students must receive information and properly interpret/process that information from instructors on theory and repair applications. They must retrieve symptoms from customers on vehicle problems. They will utilize the internet for procedures or "hidden" information that is not presented in our on-line repair manual. They must converse with parts houses in preparing estimates and eventual ordering of parts required for the repair. This is done on a daily basis.

ILO 2: Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.

*Describe how this Program supports ILO 2:*

Proper diagnosis encompasses that they utilize critical thinking in problem solving along with utilizing the proper application of techniques. They must select manuals and other sources of information for repairing specific problems along with the correct tools/equipment to pin point specific failures. Students will then finalize the course of action for repairs. Types of repairs encountered cover the entire vehicle (bumper to bumper). They will consistently encounter logistic problems as unrelated systems or sub-systems will need to be disabled/disassembled in order to access problem areas. This done on a daily basis.

ILO 3: Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.

*Describe how this Program supports ILO 3:*

Upon graduation students will seek employment in the field of study. Many find jobs locally at full service service stations, general/specialty repair shops, franchised companies, body shops (mechanical repairs on crashed vehicles), and new car dealerships. A few have ventured to the mainland and are employed on the west coast, Texas, Michigan, and Georgia. The program also has graduates in Japan, Europe and mainland China. The local employers and customers are multi-cultured as are our graduates. Some of those with Hawaiian ancestry have enlisted financial aid from various agencies and have created successful businesses locally. Graduates enter our local economy island wide and become positive contributing citizens.

# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

## **Annual Report of Program Data (ARPD)**

Based on the data from this Program's ARPD, analyze this program's strengths and weaknesses in terms of demand, efficiency, and effectiveness.

### **Overall Health-- Cautionary**

#### **Demand -- Unhealthy**

Although indicators exhibit a flat economy, our students have consistently found employment in the industry at an average of 90%. This is due to the extensive career network with employers that the AMT Program possesses. Figures that are presented in calculations only reflect government positions. This program helps locate employment for students in the private sector and many related industries. It has been quite successful in locating employment opportunities for students. This has been the case for the past 30 years. Placement in industry has been consistent regardless of the economic climate of the state or nation. The program has always had the intent of expanding to attract a larger student population. The current intake is 20 new students each year. Facility, budget and personnel limitations are currently preventing expansion. The program has recently been selected to participate in career day activities at the Kamehameha School Keaau campus. The program hopes to increase Hawaiian ancestry students by exposing them to Hawaii Community College opportunities. We also are actively recruiting non-traditional students at career fairs, island wide.

#### **Efficiency -- Healthy**

We will continue to maintain this area at the current levels.

#### **Effectiveness -- Healthy**

We will continue to maintain this area at the current levels.

#### **Distance Education: Completely On-Line Classes**

If applicable, based on the data on Distance Education (DE) from this Program's ARPD, analyze this program's strengths and weaknesses in terms of its DE offerings. Include future plans (i.e. will increase/decrease offerings; CARP 100 was not effective online, will try CARP 101 instead; increase professional development for faculty).

N/A

#### **Perkins IV Core Indicators**

If applicable, provide an analysis for any Perkin's Core Indicator for which this program did not meet the goal.

# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

We did not meet non-traditional participation and completion rates. The program has placed an emphasis on recruiting non-traditional students at all career activities at our local high schools. Hawaii Community College has previously had special grants specifically for non-traditional students. Even with those opportunities the levels of these student counts were low. We will continue our efforts to improve in these areas.

### **Performance Funding**

Briefly describe initiatives/strategies that this program has or will implement to increase any or all of the Performance Funding outcomes.

We actively utilize our Office of Student Services and counselors to improve success rate in this area. We also keep track of native Hawaiian students with the intent of improving success rates.

### **Previous Program Actions**

From the Academic Master Plan (AMP), list the Program Actions for this program. Give a progress report for each Program Action, describe the degree of achievement. Indicate "Delete" if this Program Action will no longer be a priority Program Action

<b>Program Actions</b>	<b>Progress Evaluation</b>
6.1 we are currently in process in completing syllabus and course outline up dating	nearing completion
6.2 created rubrics developed and approved by program advisory committee	have documented increases by 3 evaluators for each student learning outcome
6.3 obtain phone # for student follow up	has proved effective in the charting of students for follow up on ASE test taking. Results show that 90% of students have aquired certifications within five years of graduation. Results have shown that students have a lower success rate in the areas of engine performance and engine mechanical. The program will attempt to improve these areas by modifying instruction and replacing outdated equipment.

Significant Program Actions for 2012-2013. (include curriculum changes, new certificates, stopout, gain/loss of positions)

1. We are currently in the process of obtaing a full time APT that will be shared with the Auto Body Program. This person will be tasked with reviewing safety and operational procedures in the lab as well as clerical work as required to complete workorders and dealing with parts
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# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

suppliers. This will free up instructors to concentrate on instructional tasks in the lab and allow more time to be used towards improving/updating all aspects of the program.
2.
3.

## **Analysis of Strengths and Weaknesses**

Briefly describe this program's top 3 strengths and 3 weaknesses. Provide an explanation and supporting evidence for each strength and weakness (e.g. assessment results, data elements from ARPD, surveys, etc.)

<b>Strengths</b>	<b>Using supporting evidence, describe why this is a strength</b>
S1. AMT program enjoys high student interest that has been consistent for 30 plus years	popularity ensures that program continues to fulfill careers in the automotive industry
S2. class size always at full capacity	shows high interest in automotive field
S3. high and improving completion rate	this demonstrates that the programs choice of action plan has resulted in an improvement in graduation rates.

<b>Weaknesses</b>	<b>Using supporting evidence, describe why this is a Weakness</b>
W1. declining population of native Hawaiian students	current recruitment strategies have not improved numbers of students, however this should improve because the AMT program has recently been selected as a presenter in the Kamehameha School annual career day activities
W2. declining non-traditional students	number reflect are poorly but we have traditionally always had students. The prior graduating classes (2) had no non-traditional students enrolled even with active recruiting.
W3. declining numbers for Majors to FTE BOR appointed faculty	calculations are based on AMT majors (total) but the program intake is only 20 per year. Additional instructors and facility space increase would alleviate this problem.

## **Trends and Other Factors**

Describe trends including comparisons to any applicable standards, such as college, program, or national standards from accrediting associations, etc. Include, if relevant, a summary of

# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

Satisfaction Survey Results, special studies and/or instruments used, e.g., CCSSE, etc. Describe any external factors affecting this program or additional program changes not included elsewhere.

The national trend has been shifted toward certification. The program encourages students to attempt the exam(s) but it is not a requirement of the program. Students will have to pay for exam registration as well for each exam. There are 8 basic areas of examination. Many employers are distributing payroll bonuses for passing exams. In that sense, it is not lucrative to have passed exams before employment. The program provides practice exams before graduation so that students will be familiar with testing format.

## Part III: Action Plan

### Goals and Planning

List additional Program Action(s), not included in the AMP to be implemented for program success. Identify the AMP Priorities, College's ILOs, Strategic Plan Action Strategies, and UH System collaboration (if applicable) to which these Program Action(s) align.

Program Action 1		ILO Alignment (select up to 3)	Strategic Plan Alignment (select best alignment; max 3)		UH System Collaboration
			Performance Measure	Action Strategy	
Incorporate biodiesel instruction in the existing curriculum.	Green Curricula	ILO 3	E.3	c.	
	Program Development	ILO 2	B.1	g.	
	Workforce	ILO 3	B.1	New Strategy	

[Link to Hawaii Community College Institutional Learning Outcomes](#)

[Link to Hawai'i Community College Strategic Plan](#)

[Link to Hawaii Community College Academic Master Plan](#)

Narrative of New Strategy for Strategic Plan:

1. Biodiesel burns cleaner and doesn't rely on fossil fuels. The technology is relatively new but once accepted by the transportation sector will become a common commodity, .
2. There already exists a biodiesel processor at the HawCC, but has yet to be installed. The program will create curricula to support the operation and sustainability of biofuel production, which will be used in the State's vehicle inventory that currently uses regular diesel, as well as in the DISL program.
3. Graduates will be more employable by possessing basic biodiesel knowledge. The Big Island has a couple of refineries already in operation. With increased acceptance of the product, the industry will need more technicians to meet demand.

## HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

Briefly explain how **Program Action 1** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

The program will be addressing and attempt to implement the "green" movement into self sustainably for the island community.

Calendar of planned activities for **Program Action 1** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 1**

Activity(ies)	When will the activity take place
Example: Nursery design development Shade replacement Irrigation design and installation	September 2014 Fall 2014 Spring 2015
Modify existing existing facility and install biodiesel equipment.	Fall 2014 - Spr. 2015

Program Action 2		ILO Alignment (select up to 3)	Strategic Plan Alignment (select best alignment; max 3)		UH System Collaboration
			Performance Measure	Action Strategy	
Design new module for air conditioning to address the new refrigerant designed for mobile units. Due to be released in 2015. Called HFO-1234yf. designed as more a environmentally friendly chemical.	Green Curricula	ILO 2	E.3	New Strategy	
	Program Development	ILO 2	B.1	New Strategy	
	Graduation	ILO 1	A1.1	New Strategy	

Narrative of New Action Strategy for Strategic Plan:

1. Due to the government's ban on certain chemicals which has proven detrimental. The program must follow suit and provide instruction to deal with the new AC refrigerant.
2. As new technologies are utilized in the automobile industry, the program is required to keep pace and provide applicable instruction.
- 3.



## HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

Briefly explain how **Program Action 2** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

Will align with ILO's, AMP priorities, and Strategic Plan as the knowledge gained will encompass a global market place. This goes far beyond the local community and into the world climate agreement for the preservation of the atmosphere.

Calendar of planned activities for **Program Action 2** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 2**

Activity	When will the activity take place
Obtain the proper equipment and training.	Fall 2015 - Spr. 2016

Program Action 3		ILO Alignment (select up to 3)	Strategic Plan Alignment (select best alignment; max 3)		UH System Collaboration
			Performance Measure	Action Strategy	
Super Critical State Fuel Injection System	Green Curricula	ILO 2	E.3	New Strategy	
	Program Development	ILO 2	B.1	New Strategy	
	Graduation	ILO 1	A1.1	New Strategy	

Narrative of New Strategy for Strategic Plan:

1. Due to the government's concern on vehicle emissions, new technologies to eliminate fossil fuels and improve fuel mileage has been implemented . The program must follow suit and provide instruction to deal with such technologies.

2. As new technologies are utilized in the automobile industry, the program is required to keep pace and provide applicable instruction.

3.

Briefly explain how **Program Action 3** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

A drastic change for the vehicular world emissions situation. Will drastically reduce dependency on fossil fuel and increase fuel mileage. Modification to fuel injection systems will provide 4 cylinder gas mileage into the 90 mile/gallon range. Global as well as local communities will be affected.

Calendar of planned activities for **Program Action 3** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 3**

Activity	When will the activity take place
Obtain proper equipment and training.	Fall 2017- Spr. 2018

## HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE


List specific action plans for any Perkin's Core Indicator for which this program did not meet the goal.

Perkin's Indicator	Action Plans	When will the activity take place
5P1	The program will actively recruit and promote non-traditional as the target population.	Continuously
5P2	Special attention will be paid to ensure academic success for these students. Utilization of tutors and other services if warranted.	Continuously
1P1		
1P1		
1P1		
1P1		

### Part IV: Resource Implications

List Top 3 Cost Items needed for program success. Identify alignment to the AMP Program Actions, Strategic Plan Action Strategies and/or Strengths and/or Weaknesses to address.

Cost Item 1	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"	From Part II above	From Part II above
Mitchell On Demand	Equipmen	\$5,000	B.1	a.	6.1	S3	W1
			B.2	b.	6.2	S3	W1
			B.2	c.	6.2	S3	W1

[Link to Hawaii Community College Institutional Learning Outcomes](#)

[Link to Hawai'i Community College Strategic Plan](#)

[Link to Hawaii Community College Academic Master Plan](#)

Briefly explain why **Cost Item 1** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

## HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

Needed as this is our reference manual for all lab activities. It is utilized daily and a necessity for vehicle repair procedures, formulating estimates, calculating labor costs, technical service bulletins, and access to other links for repair or specifications. An essential tool that is used by all of the students on a daily basis. Lab activities would cease without it. Subscription will need renewal in 2013. The most critical tool for the AMT program.

Cost Item 2	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"		
tire changing machine	Equipmen	15,000	B.1	a.	6.1	S3	W1
			B.2	b.	6.2	S3	W1
			B.2	c.	6.2	S3	W1

Briefly explain why **Cost Item 2** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

Current technology requires servicing tire rim sizes 18" and larger. Our original equipment failed and the replacement was donated by one of the instructors. It is now 10 years later and the equipment is nearing the end of its life span. It will accommodate rim sizes up to 17" which is not at the standard of industry. The growing trend uses rim sizes up to 22". This is a necessity for the steering/suspension module that provides the student with saleable skills.

Cost Item 3	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"		
Vehicle computer scan tool	Equipmen	12,000	B.2	a.	6.1	S3	W1
			B.2	b.	6.2	S3	W1
			B.2	c.	6.2	S3	W1

Briefly explain why **Cost Item 3** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

Technology has progressed to the point that a new, more powerful tool is needed. Current tool can access vehicles up to 2008. Newer vehicles have greater computer capabilities that expand into anti-lock brakes, reactive suspensions, blue tooth in convenience packages, reverse vision,

# HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

computer guided parking capabilities and a new brake activation system for inattentive drivers. We are not able to communicate with these systems with our current scanner.

## Part V: Program Student Learning Outcomes

List the Program Learning Outcomes and check mark those assessed for the 2012-2013 program year.

	Check mark if Assessed this year	Program Student Learning Outcomes
<b>1</b>	<input checked="" type="checkbox"/>	identify and demonstrate proper work readiness skills and respect for cultural differences
<b>2</b>	<input checked="" type="checkbox"/>	apply safety measures at all times
<b>3</b>	<input checked="" type="checkbox"/>	maintain proper use of shop tools and equipment
<b>4</b>	<input checked="" type="checkbox"/>	demonstrate access and use of online repair manuals
<b>5</b>	<input checked="" type="checkbox"/>	diagnose and repair typical problems encountered by owners of vehicles
<b>6</b>	<input checked="" type="checkbox"/>	perform routine maintenance functions on vehicles
<b>7</b>	<input type="checkbox"/>	
<b>8</b>	<input type="checkbox"/>	
<b>9</b>	<input type="checkbox"/>	
<b>10</b>	<input type="checkbox"/>	

**A) Evidence of Industry Validation for CTE Programs** – Provide documentation that the program has submitted evidence and achieved certification or accreditation from an organization granting certification in an industry or profession. If the program/degree/certificate does not have a certifying body, the recommendations for, approval of, and/or participation in, assessment by the program’s advisory council can be submitted. – Describe the documentation; i.e. 9/27/2013 Minutes of ACC Advisory Council; Completed Rubrics by Advisory Council Members.

The Auto Mechanics Program advisory committee met, agreed and approved these learning outcomes.

**B) Expected Level of Achievement** – Describe the different levels of achievement for each characteristic of the learning outcome(s) that were assessed. What represented “excellent,” “good,” “fair,” or “poor” performance using a defined rubric and what percentages were set as goals for student success; i.e. 85% of students will achieve good or excellent in the assessed activity.”

A level of & 70% is set as the target for data. The percentage was approved by the advisory committee.

**C) List Course(s) Assessed** – List the courses assessed during the reporting period.  
AMT 60H, AMT 60I, AMT 60J, AMT 60K

## HAWAI'I COMMUNITY COLLEGE ANNUAL PROGRAM REVIEW TEMPLATE

**D) Assessment Strategy/Instrument** – Describe what, why, where, when, and from whom assessment artifacts were collected.

A rubric was utilized by three industry representatives. They evaluated each student that was present for that particular day. Data was collected and included in learning outcome strategies. Each area was given a numerical score to reflect the level of achievement.

**E) Results of Program Assessment** – The % of students who met the outcome(s) and at what level they met the outcome(s).

The rubric category "safety" scored the highest at 92%. The category "quality of work" and "diagnostic skills" scored the lowest at 66%. This was a slight improvement over the last assessment of AMT 60H and AMT 60K.

**F) Other Comments** – Include any information that will clarify the assessment process report. The overall average tabulated score was 79% which is within our target range.

**G) Next Steps** – Describe what the program will do to improve the results. "Next Steps" can include revision to syllabi, curriculum, teaching methods, student support, and other options. In the lowest scoring categories, "quality of work" and "diagnostic skills" the acquiring of cutting edge technology tools would greatly enhance those figures. The automotive field has an extremely high progressive rate and the latest tools or aids are paramount for the students success in accuracy and speed. The AMT program will strive to acquire the latest tools and equipment to keep abreast with industry. This would enable to students to better their career opportunities. We were heavily supported this past year in this area and the increase in percentages from 72% to 76% are a positive reflection of it. We strongly feel that support in this area was the main reason that the rubric scores were so improved.