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**University of Hawaii Community Colleges
Annual Report of Program Data Analysis Preview**

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PREVIEW

**College: Hawaii Community College
Program: Automotive Mechanics Technology**

The last comprehensive review for this program was on 2007, and can be viewed at:

http://hawaii.hawaii.edu/program-unit-review/docs/2007_amt_comprehensive_instructional_program_review.pdf

Program Description

Annual Report Program Data

College: *Hawaii Community College*

Program: *Auto Mechanics Technology (AMT)*

<i>Check All Credentials Offered</i>	AA	AS	ATS	AAS X	CA X	CC	COM	ASC	APC
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Introduction: Brief description of the program and program mission.

The mission of the Automotive Mechanics 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 (A.A.S.) degree. Students completing the A.A.S. degree are ready for the ASE exam and although it is not a requirement for the program, students are encouraged to take the exam. The ASE exam is conducted by the national Institute for Automotive Service Excellence and is a nationally recognized credential.

Part I. Quantitative Indicators

Overall Program Health: Cautionary

Majors Included: AMT Program CIP: 47.0604

Demand Indicators		Program Year			Demand Health Call
		10-11	11-12	12-13	
1	New & Replacement Positions (State)	64	65	92	Unhealthy
2	*New & Replacement Positions (County Prorated)	12	10	13	
3	*Number of Majors	104	87.5	80.5	
3a	Number of Majors Native Hawaiian	51	38	37	
3b	Fall Full-Time	74%	79%	64%	
3c	Fall Part-Time	26%	21%	36%	
3d	Fall Part-Time who are Full-Time in System	0%	0%	0%	
3e	Spring Full-Time	67%	69%	54%	
3f	Spring Part-Time	33%	31%	46%	
3g	Spring Part-Time who are Full-Time in System	0%	0%	0%	
4	SSH Program Majors in Program Classes	1,112	1,008	912	
5	SSH Non-Majors in Program Classes	36	0	0	
6	SSH in All Program Classes	1,148	1,008	912	
7	FTE Enrollment in Program Classes	38	34	30	
8	Total Number of Classes Taught	14	14	14	

Efficiency Indicators		Program Year			Efficiency Health Call
		10-11	11-12	12-13	
9	Average Class Size	23.9	21	19.1	Healthy
10	*Fill Rate	100%	100%	95.3%	

11	FTE BOR Appointed Faculty	2	2	2
12	*Majors to FTE BOR Appointed Faculty	52	43.7	40.2
13	Majors to Analytic FTE Faculty	58.5	49.2	45.3
13a	Analytic FTE Faculty	1.8	1.8	1.8
14	Overall Program Budget Allocation	\$234,064	\$246,751	Not Yet Reported
14a	General Funded Budget Allocation	\$177,037	\$161,460	Not Yet Reported
14b	Special/Federal Budget Allocation	\$57,027	\$0	Not Yet Reported
14c	Tuition and Fees	\$0	\$85,291	Not Yet Reported
15	Cost per SSH	\$204	\$245	Not Yet Reported
16	Number of Low-Enrolled (<10) Classes	0	0	0

*Data element used in health call calculation

Last Updated: September 5, 2013

Effectiveness Indicators	Program Year			Effectiveness Health Call
	10-11	11-12	12-13	
17 Successful Completion (Equivalent C or Higher)	95%	97%	98%	Healthy
18 Withdrawals (Grade = W)	0	0	0	
19 *Persistence Fall to Spring	72%	71.5%	80.2%	
19a Persistence Fall to Fall			CENSUS	
20 *Unduplicated Degrees/Certificates Awarded	22	16	16	
20a Degrees Awarded	21	16	16	
20b Certificates of Achievement Awarded	14	0	8	
20c Advanced Professional Certificates Awarded	0	0	0	
20d Other Certificates Awarded	0	0	0	
21 External Licensing Exams Passed		Not Reported	N/A	
22 Transfers to UH 4-yr	0	4	1	
22a Transfers with credential from program	0	1	0	
22b Transfers without credential from program	0	3	1	

Distance Education: Completely On-line Classes	Program Year		
	10-11	11-12	12-13
23 Number of Distance Education Classes Taught	0	0	0
24 Enrollments Distance Education Classes	N/A	N/A	N/A
25 Fill Rate	N/A	N/A	N/A
26 Successful Completion (Equivalent C or Higher)	N/A	N/A	N/A
27 Withdrawals (Grade = W)	N/A	N/A	N/A
28 Persistence (Fall to Spring Not Limited to Distance Education)	N/A	N/A	N/A

Perkins IV Core Indicators 2011-2012		Goal	Actual	Met
29	1P1 Technical Skills Attainment	90.00	90.48	Met
30	2P1 Completion	50.00	66.67	Met
31	3P1 Student Retention or Transfer	74.25	82.86	Met
32	4P1 Student Placement	60.00	80.77	Met
33	5P1 Nontraditional Participation	17.00	6.56	Not Met
34	5P2 Nontraditional Completion	15.25	0.00	Not Met

Performance Funding	Program Year		
	10-11	11-12	12-13
35 Number of Degrees and Certificates			24
36 Number of Degrees and Certificates Native Hawaiian			6
37 Number of Degrees and Certificates STEM			Not STEM
38 Number of Pell Recipients			62
39 Number of Transfers to UH 4-yr			1

*Data element used in health call calculation

Last Updated: September 5, 2013

Glossary | Health Call Scoring Rubric

Part II. Analysis of the Program

OVERALL PROGRAM HEALTH: Rated as Cautionary

Demand Indicators: Rated as Unhealthy

Currently our economic status has been very flat yet student enrollment continue to be within amounts of previous years. This is a historical situation in that students become more competitive in the job market with a college degree. Current indicators with my peers in industry indicate a slight increase in our local economy. Although indicators show only a slight increase in the market, the graduating class of spring 2013 had a job placement rate of 92%. Hopefully this is an indication of economic rebound. With 81 declared AMT majors, cap is at 20 students per instructor due to available workstations and safety.

Efficiency Indicators: Rated as Healthy

The fill rate is at 95% and majors to FTE BOR appointed faculty is at 40.3.

Effectiveness Indicators: Rated as cautionary

The AMT program has remained cautionary in this area. The completion and persistence is primarily due to personal situations and not academics. A plan of action is being starting to work toward improvement.

Note: 1) Career Technical Education (CTE) programs must include in analysis any Perkins IV Core indicator for which the program did not meet the goal.

2) If using alternative "program capacity" method to determine program efficiency, include in analysis.

Perkins IV Core Indicators: The program has met 4 of 6 Perkins IV's goals. The 2 areas that were not met; *Nontraditional Participation* and *Nontraditional Completion*, are due to the low female count. The AMT program has seen an increase in female participants over the years and the instructors are working very hard to retain them. Unfortunately there were a few who did not continue for personal reasons.

Significant Program Actions (new certificates, stop-out; gain/loss of positions, results of prior year's action plan).

Through Special and Perkins funding, the AMT Program purchased several equipment items, a step towards upgrading equipment to meet industry standards. This will give students a more realistic experience by providing them the opportunity to work on equipment that are used in industry.

Part III. Action Plan

Action Plan 2013-2014	Status
Review course student learning outcomes and submit necessary curriculum forms to update course outlines and syllabi.	In progress.
Develop and document assessment strategies for all learning outcomes and have validated by Program Advisory Council.	In progress
Develop a system to track the results of students taking the ASE exams.	In progress
Utilize technology to teach students about repairs - The program will use Mitchell On Demand, a computer based repair manual that is commonly used in the industry.	Currently being used but subscription needs to be renewed in 2013. The renewal will be <u>very very critical</u> for the AMT Program to meet its goals.
Request fund to update scan tool which is a vital part of the engine performance module. Newer model cars require the updated tool.	This is a priority item
Request funds for a complete tool set. Instructors currently supply their personal tools for students use.	This is still a priority item in progress.
Seek funds to purchase a transmission engine cradle. This is a new piece of equipment necessitated by newer model cars whose transmission comes out with the engine.	Completed
Request funds to purchase used oil separator and cleaner. This will help in reducing our waste stream. This will be a more environmentally better way to recover used oil products.	Completed
Request funds to replace air hoist lifts. The existing lifts are obsolete and does not meet industry standards.	Completed
Attend NATEF event. NATEF is the National Automotive Technicians Education Foundation.	This is a priority professional development activity.
	Ongoing

Request funds to up-grade computer systems to meet current diagnostic systems that have blue tooth systems.	
Explore and research incorporating Hybrid and EV technology into the curriculum. Make changes to curriculum, if necessary.	Ongoing.
Alignment Rack Specification upgrade. Last upgrade was 2009	Ongoing

Under hoist transmission jack. Modern automobiles require current removal systems	Ongoing
Engine removal lift and engine support system. Current vehicle require newer removal system and engine support bracket.	Ongoing
Ozone generator. Current technology to remove mold and mildew from Air conditioner system air duct system	Ongoing
Compressed air dryer. Current air equipment require very low water content output or major damage will occur. 90% equipment used in the shop uses compressed air.	Ongoing
Electronic battery, starting, & charging system tester.	Ongoing.
Multiple battery charger. Current charger does not meet current standards.	Ongoing
Portable battery charger. Current charger does not meet current standards	Ongoing
Scan tool. Current equipment is outdated. Will not analyze current vehicles.	Ongoing
Valve Seat grinder. Current equipment will not do current 4 valve heads	Ongoing
Mig welder. For automotive type welding. Safer than torch welding	Ongoing
Plasma cutter. Safer than torch cutting and will cut none ferrous metal used on the exhaust system.	Ongoing.
Pedestal Grinder. Existing grinders beyond repair.	Ongoing

Portable oil dollies. For transporting used oil safely. To meet hazardous material requirements.	Ongoing
Special shop vacuum cleaner. Current equipment beyond repair	Ongoing
Heavy duty transport wagons. To safely move vehicle components.	Ongoing.
	Ongoing

Floor jacks. Current jack use a low profile arrangement for use on late model vehicles	
Engine support bracket. Current vehicle require this equipment for transmission removal.	Ongoing.
Smoke generator. Current diagnostic equipment for evaporative emission system.	Ongoing
Tire machine capable of wheel size 18" and lager. Also capable of low profile tires	Ongoing

- 1 Request funds to purchase Mitchell-on-Demand system.
- 2 Recruit/retain non-traditional students. Females are largely under-represented in the automotive field even though they can achieve equal levels of knowledge and hand skills as males.
- 3 Request funds for alignment rack upgrade
- 4 Request funds to purchase tire machine to increase rim size above 18"
- 5 Request funds to purchase transmission jack
- 6 Request funds to purchase floor jacks
- 7 Request funds to purchase engine removal lift
- 8 Request funds to purchase shop vacuum cleaner
- 9 Request funds to purchase and install compressed air dryer
- 10 Request funds to purchase heavy duty wagons
- 11 Request funds to purchase portable oil barrel dollies
- 12 Request funds to purchase plasma cutters
- 13 Request funds to purchase portable battery charger.
- 14 Request funds to purchase multiple battery slow chargers
- 15 Request funds to purchase electronic battery, starting system, & charging
- 16 Request funds to purchase v-tronics scan tool upgrade
- 17 Request funds to purchase new scan tool.
- 18 Request funds to purchase Mig welders
- 19 Request funds to purchase ozone generator
- 20 Request funds to purchase valve seat grinder
- 21 Request funds to purchase smoke generator
- 22 Request funds to purchase transverse engine holding bar/bracket
- 23 Pedestal grinder
- 24 Request funds to attend classes to certify faculty to teach hybrid vehicles & EV.
- 25 Request funds to seek new job market areas in the automotive industry and create a job network in this area.
- 26 Request funds to attend NATEF event.

Part IV. Resource Implications

Mitchell-On-Demand renewal.	This computer based repair manual will expire at the end of spring 2013 semester. This is required in all phases of our curriculum—lecture and lab and used by all students daily.	\$4,500
Alignment rack upgrade.	New Model input is critical to keep up with technology. This equipment is essential for use in all phases of Steering and suspension areas.	\$800
Replace transmission jack.	Existing jack is broken and parts are not available for repair. This	\$5,000

	equipment is essential for use in all phases of the engine, power train & auto trans courses. Without this equipment students cannot safely complete their assignments in these areas.	
Tire machine	Current machine cannot do wheels greater than 18 inches with low profile tires. Trend in the automotive industry is moving to larger wheel sizes and require different skills to replace low profile tires.	\$24,000
Low profile floor jacks	This is a safety issue. Newer model cars have lower profile body arrangements	\$2,500
Engine removal lift	Newer vehicles require special equipment and support brackets.	\$5,000
.Shop vacuum cleaner	Current equipment beyond repair.	\$800
.Compressed air dryer	Current air equipment require very low moisture output or major damage will occur. 90% of the equipment uses compressed air as a power source.	\$4000
.Heavy duty wagons	To safely move heavy vehicle components.	\$1,500
Portable used oil dollies	For transporting used oil safely. To meet hazardous material requirements.	\$1,500
Plasma cutter	Safer than torch cutting	\$3,500
Portable battery charger	Current charger does not meet new industry standards.	\$1,600

.Multi battery slow charger	Current battery charger does not meet new industry standards.	\$1,200
Battery multifunction tester	Current tester beyond repair	\$1,600
y-tronics upgrade	This is vital for the engine performance module	\$1,500
New scan tool	Current equipment is outdated Will not analyze current vehicles	\$12,000
Mig welders	For automotive type welding. Safer than torch welding	\$2,500
Ozone generator	Current technology to remove mold and mildew from air conditioning ducts.	\$2,000
.Valve seat grinder	Current equipment will not do modern 4 valve heads.	\$3,500
Smoke generator	Current diagnostic equipment for evaporative emission system	\$2,500
Transverse engine bar		\$500

	Current vehicle require this equipment for safe transmission removal.	
Pedestal grinder	Current grinders beyond repair.	\$1,200
Hybrid classes for faculty	Attend classes to certify faculty to teach hybrid vehicles. Currently technology which requires special certification due to safety concerns.	\$12,000
Network development	Develop network ties on the west side and outer islands	\$4,000
Faculty Development	Attend NATEF event. NATEF is the National Automotive Technicians Education Foundation, a non profit foundation responsible for NATEF program certification based evaluations.	\$10,000

Program Student Learning Outcomes

For the 2012-2013 program year, some or all of the following P-SLOs were reviewed by the program:

Assessed this year?	Program Student Learning Outcomes	
1 <input type="checkbox"/> Yes	Identify and demonstrate proper work readiness skills and respect for cultural differences.	
2 <input type="checkbox"/> Yes	Apply safety measure at all times.	
3 <input type="checkbox"/> Yes	Maintain proper use of shop tools and equipment.	
4 <input type="checkbox"/> Yes	Demonstrate access and use of online repair manuals.	
5 <input type="checkbox"/> Yes	Diagnose and repair typical problem encountered by owners of vehicles.	
6 <input type="checkbox"/> Yes	Perform routine maintenance functions on vehicles.	

A) Evidence of Industry Validation

The Auto Mechanics Program advisory committee met, agreed and approved these learning outcomes. Board agreed that these outcomes reflect industry needs.

B) Expected Level Achievement

A level of 70% is the target data. This percentage was approved by the advisory committee.

C) Courses Assessed

AMT 60J 2012 and AMT 60K 2013

D) Assessment Strategy/Instrument

Using a rubric three industry representatives evaluated each student. Data collect was included in learning outcome percentages. Each area was given a numerical range to reflect level of achievement

E) Results of Program Assessment

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

F) Other Comments

Overall average percentage was an average of 79% which is within the target.

G) Next Steps

In the lowest areas, "quality of work" and "diagnostic skills", acquiring cutting edge tools will boost skill levels in this area. Because of the technical progressiveness of the automotive industry, current and cutting edge tools and the use of application are paramount for student success their career. The AMT program will strive to acquire tools and equipment to keep abreast with industry so students can enjoy good career opportunities. We were supported last year in this area and outcomes show that an overall increase from 72% to 76%. We strongly feel that support in this area did improve the percentages reflected in the rubrics.

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