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

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PREVIEW

College: Kauai Community College Program: Automotive Mechanics Technology

The last comprehensive review for this program was on 2008, and can be viewed at:

<http://info.kauai.hawaii.edu/admin/gov/progreview/documents/08ProgRevAMT.doc>

Program Description

The Automotive Mechanics Technology program is a competency-based program built on the standards specified by the National Automotive Technicians Education Foundation (NATEF). Students who successfully complete the Associate in Applied Science degree will have received training in all eight NATEF areas: Automatic Transmission/Transaxle, Brakes, Electrical/Electronics Systems, Engine Performance, Engine Repair, Heating and Air Conditioning, Manual Drive Train and Axles, and Suspension and Steering.

The Automotive Mechanics Technology program courses are clustered into certificates. Each certificate provides a set of marketable workplace skills. This two-year degree program begins every fall.

This program is articulated with other UH Community College Automotive programs. Students enroll in all the Automotive Mechanics Technology program courses offered each semester in order to earn the desired certificate or degree in the shortest time possible. Students are strongly encouraged to consult with an academic advisor to help them plan the best path for reaching their academic goals.

Students are able to earn Certificates of Completion in their first and second semesters. A Certificate of Achievement or an Associate in Applied Science degree is earned at the completion of the 2-year program.

A revampment of the program was undertaken in 2000. The major changes were: Twenty percent increase in lab time per course; classes went from semester length to modular, and students could now earn a Certificate of Completion in their first and second semesters. Changes were implemented as recommended by the Automotive Advisory Committee.

The course Student Learning Outcomes (SLOs) reflects the automotive Program Learning Outcomes (PLOs), which also reflects Kaua'i Community College's Mission Statement of open access, serving the community and beyond education and training in a caring, student-focused, and intellectually stimulating environment that contributes to the development of life-long learners.

The Automotive Mechanics Technology (AMT) program at Kaua'i CC provides open access, post-secondary education to qualified students. Students and technicians of the auto repair industry develop and massage their minds to think critically as a necessity of the diagnosis, repair, and maintenance of today's hi-tech vehicles.

AMT faculty provide students a caring environment of intellectual stimulation that challenges them to be life-long learners. The many facets of the auto repair industry and the challenges associated with them leads to a personally fulfilling life.

To assure that students succeed in achieving their goal of attaining an AAS Degree in the Automotive Mechanics Technology program, a maximum of 25 contact hours per week in automotive courses is prescribed for a 2-year course of study. This does not include the 22 additional credits taken in General Education courses. This would increase their average student contact hours an additional 5 hours per week, for a total of 30 contact hours per week. The AMT program classes are modular. AMT vocational instructors teach (by contract) a maximum of 25 contact hours per week.

AMT students have classes ranging from 5 days a week, 4 hours plus 24 minutes per day (4.6 hrs/day) minimum to 5 days a week, 5 hours and 10 minutes per day (5.2 hrs/day) depending on the semester.

This relatively large load is common in Career Technical Education (CTE) programs.

Part I. Quantitative Indicators

Overall Program Health: **Cautionary**

Majors Included: AMT Program CIP: 47.0617

Demand Indicators		Program Year			Demand Health Call
		12-13	13-14	14-15	
1	New & Replacement Positions (State)	92	98	197	Unhealthy
2	*New & Replacement Positions (County Prorated)	6	8	16	
3	*Number of Majors	39	50	40	
3a	Number of Majors Native Hawaiian	17	21	16	
3b	Fall Full-Time	70%	67%	65%	
3c	Fall Part-Time	30%	33%	35%	
3d	Fall Part-Time who are Full-Time in System	0%	0%	0%	
3e	Spring Full-Time	68%	60%	68%	
3f	Spring Part-Time	32%	40%	32%	
3g	Spring Part-Time who are Full-Time in System	0%	0%	0%	
4	SSH Program Majors in Program Classes	547	663	635	
5	SSH Non-Majors in Program Classes	39	50	36	
6	SSH in All Program Classes	586	713	671	
7	FTE Enrollment in Program Classes	20	24	22	
8	Total Number of Classes Taught	15	18	17	

Efficiency Indicators		Program Year			Efficiency Health Call
		12-13	13-14	14-15	
9	Average Class Size	11.1	11.7	11.1	Healthy
10	*Fill Rate	79%	83.7%	79.4%	
11	FTE BOR Appointed Faculty	2	2	2	
12	*Majors to FTE BOR Appointed Faculty	19.5	24.7	20	
13	Majors to Analytic FTE Faculty	19.9	22.7	18	
13a	Analytic FTE Faculty	2.0	2.2	2.2	
14	Overall Program Budget Allocation	\$288,111	\$395,792	\$349,859	
14a	General Funded Budget Allocation	\$233,976	\$226,779	\$214,394	
14b	Special/Federal Budget Allocation	\$0	\$134,714	\$109,003	
14c	Tuition and Fees	\$54,135	\$34,299	\$26,462	
15	Cost per SSH	\$492	\$555	\$521	
16	Number of Low-Enrolled (<10) Classes	4	4	7	

*Data element used in health call calculation

Last Updated: October 7, 2015

Effectiveness Indicators		Program Year			Effectiveness Health Call
		12-13	13-14	14-15	
17	Successful Completion (Equivalent C or Higher)	89%	90%	94%	Healthy
18	Withdrawals (Grade = W)	1	1	3	
19	*Persistence Fall to Spring	72.5%	78.8%	67.3%	

19a	Persistence Fall to Fall	50%	36.5%	52.2%
20	*Unduplicated Degrees/Certificates Awarded	14	24	25
20a	Degrees Awarded	4	5	2
20b	Certificates of Achievement Awarded	6	5	3
20c	Advanced Professional Certificates Awarded	0	0	0
20d	Other Certificates Awarded	42	41	36
21	External Licensing Exams Passed	Not Reported	Not Reported	N/A
22	Transfers to UH 4-yr	0	1	1
22a	Transfers with credential from program	0	1	1
22b	Transfers without credential from program	0	0	0

Distance Education: Completely On-line Classes		Program Year		
		12-13	13-14	14-15
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 2013-2014		Goal	Actual	Met
29	1P1 Technical Skills Attainment	91.00	100.00	Met
30	2P1 Completion	47.00	70.59	Met
31	3P1 Student Retention or Transfer	75.21	88.46	Met
32	4P1 Student Placement	68.92	44.44	Not Met
33	5P1 Nontraditional Participation	17.50	7.84	Not Met
34	5P2 Nontraditional Completion	16.00	7.41	Not Met

Performance Funding		Program Year		
		12-13	13-14	14-15
35	Number of Degrees and Certificates	10	10	5
36	Number of Degrees and Certificates Native Hawaiian	1	4	3
37	Number of Degrees and Certificates STEM	Not STEM	Not STEM	Not STEM
38	Number of Pell Recipients	28	31	20
39	Number of Transfers to UH 4-yr	0	1	1

*Data element used in health call calculation

Last Updated: October 7, 2015

[Glossary](#) | [Health Call Scoring Rubric](#)

Part II. Analysis of the Program

KCC's AMT "Overall Program Health" is rated CAUTIONARY in the UHCC Instructional ARPD 2015.

The Overall Program Health Demand Indicator having an unhealthy rating. With the exception of Carpentry, all Voc Tech programs have an indicator of Unhealthy due to the method of calculation. This method of calculation is not indicative of Demand of jobs. We have consistently explained this over the past years of this APRU process.

This Health Call of Demand being "Unhealthy" is consistent on all UH Community College campuses. Until another method of calculation is

devised, this outcome will most likely not change.

Regarding Perkins IV Core Indicators 4P1, 5P1 and 5P2, all AMT programs in the UH CC system do not meet these indicators. The Non-Traditional aspect of students in the AMT arena is a very low percentage nationwide. Until women view the auto tech career as appealing and physically attainable, we predict this trend to remain status quo.

Part III. Action Plan

The AMT program recently (October 28-30) completed a NATEF required self assessment by its Advisory Committee. The evaluation of this assessment by NATEF has not been received as of this APRU writing. See Action Item #23 in this section (Part III Action Plan).

Items (Standards) 7.2, 8.1, 8.4, 8.7, and 9.3b have been addressed and is on-going.

Since the KCC-AMT program became nationally accredited by NATEF in 2013, the automotive program is comprehensively reviewed by NATEF every five years. To remain nationally certified, the program must go through a rigorous review. See NATEF Program Accreditation Standards. Besides the 5-year review, the program also is reviewed every 2 ½ years (not for certification).

The present goal is to pass the 2 ½ year review by implementing "Recommendations" (8) over a five (5) year period (2013-2018).

Program Goal	Action Item	Resources Needed	Person Respon.	Timeline	Indicator of Improvement	PLO Im-pacted	Status
2.2 Curriculum: Ensure quality, relevancy and currency of curriculum to meet the needs of our diverse student population and community. Strategy Priority	1. Develop an advisory board survey to collect data from board members regarding the needs of industry and that program PLOs reflect those needs. A. Convene advisory board to gather consensus of industry needs regarding students graduating in AMT.	Faculty time and monies for advisory board meeting (dinner).	AMT faculty	Meetings recommended bi-annually by NATEF	Students meet industry expectations. The number of degrees and certificates will increase. Student placement will be indicative of economy.	1,3,5	Advisory members confirmed. On-going
Goal 1: Educational Effectiveness and Student Success Student retention and success of all students and particular increased	2. Develop a process for students to evaluate the effectiveness of the program. A. Develop a student survey.	Student advisor time (Trade Tech advisor)	Student services advisor	Bi-annual	Program evolves to meet students' needs. Students become more aware of program objectives. Students will persist at a 100% each year.	1	Trade Tech counselor developing process. On- going

completion of degrees, certificates, and licensure. Compilation of course and program Student Learning Out-comes (SLOs).	Use of Program Ending Test	\$35 per student paid by AMT resources	KCC Test Center	(graduating class) Since 2003			On-going
	3. Ensure currency of lab equipment. A. Update diagnostic scanners annually to maintain currency with new model vehicles.	A. \$2,000/year	Budget committee of College Council Chancellor, AMT faculty	A. Every school year (2 scanner update per year)	A. Students knowledge / training / skills. Keep abreast of technology changes constantly occurring in the automotive electronics arena. Students will persist at a 100% each year.	1,3,4	A. On-going \$2000/yr.
	B. Renew information system (manuals on CD's) bi-annually. Changeover to Electronic Data On0line Fall 2009	B. \$1,200/year Same cost as above		B. Every other year (bi-annual). Next update due Spring 2007. Paid subscription yearly	B. Industry maintains and repair vehicles with technicians and tools (shop, technician, manuals). The education environment also needs to maintain its shop manuals to give students the necessary information to maintain/repair vehicles.	1,3,4,5	B. Alldata
Goal 4: Invest-mint in faculty, staff, students and their environ-mint. Enrich-in student ex-patience, particularly directed to any of the above goals.	C. Renew equipment as obsolescence and/or breakage occurs.	C. Need to assess equipment status (age/ obsolescence/use/ etc.)		C. Ongoing	C. Training of students in lab keeps students abreast of technological advances in the automotive repair industry. The automotive industry (repair) is the fastest changing in the voc. ed. area due to the affect that the computer has played in its development. Today's vehicles have multiple on-board computers that network with various communication protocols.	1,3,4,5	C. See also Part III Analysis On-going.

	<p>4. Coordinate with Math dept to teach automotive specific curriculum in Math 50 course.</p> <p>Schedule meetings with Math dept. to review required AMT Math competencies.</p>	<p>Faculty Time Math/AMT program chairs.</p> <p>-----</p> <p>Assigned Time</p>	<p>Math/Amt faculty</p>	<p>Spring 06</p> <p>Summer 06</p> <p>Met in Sp '13</p>	<p>Students will be able to meet course/program/college SLO's more easily.</p>	<p>1,2,4</p>	<p>On-going.</p> <p>-----</p> <p>Implemented this Fall 2007.</p>
	<p>5. Update classroom media technology to include PowerPoint presentations.</p> <p>Equip AMT facilities with PowerPoint projector/sound sys/laptop computer</p> <p>-----</p> <p>Room 101B</p> <p>-----</p> <p>Equip AMT facilities with PowerPoint projector/sound sys/laptop computer.</p> <p>-----</p> <p>Equip AMT classrooms 101A & B with "Smart-Boards"</p>	<p>Projector \$2,800</p> <p>-----</p> <p>Laptop \$2,800</p> <p>-----</p> <p>Projector \$2,800</p> <p>Laptop \$1,900</p> <p>-----</p> <p>\$2,800 each (\$5,600 total)</p>	<p>College Council</p> <p>Chancellor</p>	<p>Spring 2007</p> <p>Summer 2009</p> <p>Fall 2016</p>	<p>Increased student retention/satisfaction.</p> <p>Student retention will increase from the current 78%.</p> <p>-----</p> <p>Increased student retention/satisfaction.</p> <p>-----</p> <p>Student demand that classrooms are equipped with the latest technologies in audio visual presentation.</p>	<p>1-6</p>	<p>On-going.</p> <p>College Council in March 2006?</p> <p>-----</p> <p>Received projector and laptop this Fall 2007 for 101A.</p> <p>-----</p> <p>For room 101B</p> <p>-----</p> <p>Rec'd Fall 2009</p> <p>-----</p>
	<p>6. AMT faculty to attend SEMA show in Nov. (Trade industry show)</p>	<p>Travel monies \$1,000 - \$2,100</p> <p>Per Diem \$350</p>	<p>Professional Development Comm.</p>	<p>Fall annually (Nov.)</p>	<p>Faculty learns of latest industry development and relays this to students.</p>	<p>1-5</p>	<p>Attended Nov. 06</p> <p>On-going.</p> <p>-----</p>

							Attended Nov. 07 ----- Attended Nov. 2011 On-going.
2.2 Currency, quality							
2.2 Currency	7. Revise AMT 40E to 3 credits (presently 2 credits) Apply course modification (CAF)	AMT faculty Assigned Time	AMT faculty		Students better able to meet SLO's for AMT 40E	1-6	Implemented Fall '12 New instructor will research.
2.4 SLO							
	Revise AMT 30B to increase course hours to 165 hours (presently 135 hours) Apply for course modifications (CAF)	AMT faculty Assigned Time	AMT faculty		Students better to meet SLO's for AMT 30B	1-6	Researching implications of scheduling. Implemented Spring 2013
	8. AMT faculty training for Hybrid vehicle diagnose/repair Research available classes and cost.	Professional development monies.		Summer 2010	Students able to repair Hybrid vehicles (latest hi-technology)	1-6	On-going. Course started

	Purchase Hybrid vehicle						Fall 2013
	9. Lecturer needed to teach AMT 43	Monies to pay lecturer 4 credits (\$4,800)		Spring 2010 Spring 2011 Spring 2012 Spring 2013	Students able to complete their studies in the AMT program and attain A.A.S. degrees/C.A.	1-6	On-going every year Spring-
	10. Lecture needed to teach AMT 16	Monies to pay lecturer 1 credit (\$1,200)		Fall 2010	Community Service	1-6	On-going every semester.
	11. Lecturer needed to teach AMT 18	Monies to pay lecturer 2 credits (\$2,400)		Spring 2011	Community Service	1-6	On-going every semester.
	12. Coordinate with ETRO program to teach automotive specific curriculum in ETRO 18 course. Discussions with ETRO 18 instructor to teach course using ATECH Training Inc., S.E.T. training courseware. Purchase S.E.T. training courseware.	ATECH Training Inc. S.E.T. courseware and training simulator. \$1,879.00	Budget Committee approval/ Perkins.	Summer 2010 Summer 2011	Students better able to achieve course SLOs of AMT 40E/41/40H/60/43/50	1-6	ETRO and AMT coordinating.
	13. Measure program effectiveness in terms of abilities of students to pass the national exam for automotive technicians (ASE). Utilize the End-of-Program Tests given	\$35/student. Student count varies per year. Approx: \$490 AMT program monies.		Every year Spring.	Assessment of students by: graduating years/content area (courses) achieving SLOs.	1-6	On-going.

	by NATEF (NA3F). Test students in their 4th semester in all eight ASE automotive categories						
	14. Professional update area of expertise by technical publications/service reports/technical help line. Annual membership of Mobile Air Conditioning Society (MACS). Trade periodical subscriptions.	\$280.00 annual dues \$100/yr		Annually	Students benefit by instructor's continued update of knowledge/procedures /expertise. Student retention will increase from the current 78%.	1-6	\$240/yr On-going.
	15. Safety and Health SHOP SUPPLIES (See attachment) Have A.P.T. organize/track /order/Maintain SHOP SAFETY/HEALTH SUPPLIES.	Approx. \$6,000/yr A.P.T. needed.	AMT general shop budget allocated from Trade Tech Division budget by the Div. Chair.	Annually	Responsible care of student safety and health.	1,3	On-going. Total: \$6,000
	16. Classroom/ Office/ Shop Supplies (See attachment) Purchase expandable items as depleted for continued efficiency of	Approx. \$4,000/yr	AMT general shop budget allocated from Trade Tech Division budget by the Div. Chair.	Annually	Required for continuity of operation.	1-6	On-going. Total: \$4,000

Part IV. Resource Implications

The AMT Programs operate with a couple of budgeted funds.

The Trade Tech Division (TTD) is allotted monies per year (TSF monies), which the TTD divides among its trade programs...ABRP, AMT, CARP, ELEC, ETRO, FENG.

The Chancellor has allotted (Feb 18, 2011).

- OPERATING Budget: \$22,000/year
See Action Plan #3A, 3B, 3C, 6, 13, 14, 15, 16, 17
- REPLACEMENT Budget: \$20,000/year
(Chancellor brought forth this to Legislature for on-going yearly funding)
See Action Plan #21
- Hybrid/EV Budget: \$5,000/year
See Action Plan #22

All the above resources (monies) are Annual Recurring Cost and the outcome is that the program is sustainable and able to meet all requirements to maintain its national certification (NATEF). Maintaining NATEF Certification ensures that SLO's, PLO's, and a very rigid process of student and program assessment are followed as specified by the NATEF Standards. These standards are assessed/evaluated every two and half years by NATEF.

APT salary and fringes	\$63,000/yr (See Action Plan #20) (Completed)
Operating Budget \$22,000/year	\$22,000 See Action Plan #3A, 3B, 3C, 6, 13, 14, 15, 16, 17 a) The College Council (Feb. 18, 2011) approved that the Automotive funding request be brought forth to the Legislature. Automotive request: NATEF certification, position (APT), and equipment b) The College Council discussion (Feb. 24, 2011) of AMT progress on becoming NATEF certified. 1. AMT has to show that they have updated equipment, a Replacement Budget , and an adequate Operating Budget . Not having monies for equipment replacement and upgrading would prevent NATEF certification. 2. If AMT gets the Legislative funding, then the APRU only needs to fund the \$22K Operating Budget.
Replacement Budget \$20,000/yr	\$20,000 (See Action Plan #21)
Monies to pay lecturer	\$5,200 AMT 43 (Every Spring) (See Action Plan #19)

Travel and per diem to attend Trade Show in Nov. 2015	\$1,350-\$2,450 (See Action Plan #6)
Lecturer	\$1,300 AMT 16 every semester \$2,600 AMT 18 every semester \$2,600 AMT 80 every semester (See Action Plan #10 and 11)
NATEF certification process 2010/2011 On-site evaluation cost	\$1,269 (See Action Plan #18) (Completed)
Course Budget for Hybrid/EV Maintenance, Diagnose, and Repair	\$21,500 (See Action Plan #22)

Program Student Learning Outcomes

For the 2014-2015 program year, some or all of the following P-SLOs were reviewed by the program:

Assessed this year?	Program Student Learning Outcomes	
1 <input checked="" type="checkbox"/>	Yes	1. Graduates of the AMT program will be technically proficient in entry-level skills for employment in the automotive service field or related areas.
2 <input checked="" type="checkbox"/>	Yes	2. Graduates will understand the theory behind automotive procedures and use critical thinking when performing service, maintenance, diagnostics, and repair of all major automotive systems.
3 <input checked="" type="checkbox"/>	Yes	3. Students will understand and comply with personal and environmental safety practices in accordance with applicable safety and environmental regulations.
4 <input checked="" type="checkbox"/>	Yes	4. Graduates will be able to identify and use appropriate tools, testing and measuring equipment required accomplishing each task established by NATEF.
5 <input checked="" type="checkbox"/>	Yes	5. Graduates will be able to locate references, training information and manufacturer's procedures from industry resources using the appropriate technology and will be able to perform tasks in accordance with their research.
6 <input checked="" type="checkbox"/>	Yes	6. Graduates will communicate effectively both orally and written.

A) Evidence of Industry Validation

The automotive repair industry hires technicians that are Automotive Service Excellence (ASE) certified. ASE certification is meant to instill confidence by consumers of the validity of the repair technician. At the end of the students tenure at Kauai Community College Automotive Mechanics Technology program, each student is tested in all ASE Automotive Technology areas (eight areas, A1 - A8) using the ASE Student testing program. Students entering the workforce will then take the regular ASE tests. The ASE test is the venue that the State of Hawaii Regulatory Board licenses automotive technicians.

KCC - AMT program was accredited by a national foundation, the National Automotive Technicians Education Foundation, in Spring 2013.

B) Expected Level Achievement

No content.

C) Courses Assessed

Fall 2014: AMT 20, AMT 40B, AMT 40D, AMT 40E, AMT 41, AMT 50, AMT 53, AMT 55

Spring 2015: AMT 30, AMT 40G, AMT 40H, AMT 43, AMT 46, AMT 60

The assessment tool is CARDS.

D) Assessment Strategy/Instrument

- Students' Finals (written exam) scores
- Students' Lab (NATEF Tasks) scores
- Students' Safety Exam score
- Students' Personal Inventory (i.e. Attendance and Punctuality data)

E) Results of Program Assessment

Reviewing data from CARDS (course level assessment tool) indicates that the AMT program is achieving its mission to prepare students for entry-level into the auto-repair industry. It is also evident (by student comments, will also qualify this by a formal survey instrument in the future) that students sometimes enter the program with intentions of pursuing a career in auto repair, then finish the program and decide against becoming technicians. This is not a negative reflection on the program, rather personal choices of students. To rate the validity of a program solely based on percentage of graduates entering the workforce would be wrong and an injustice to the community and education. How many college graduates (Bachelors and Masters) actually work in the areas of their major?

F) Other Comments

No comment.

G) Next Steps

It has been determined that when assessed scores are lower than benchmarks, these students usually show low readings comprehension levels and/or basic math skills that are low also. We will be requiring that these identified students be concurrently enrolled in reading and/or math courses during their first enrolled semester.

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