ANNUAL PROGRAM REVIEW
AUTOMOTIVE TECHNOLOGY
2009-2010

I. Assessment of Student Learning

The Program Learning Outcomes (PLOs) for the Automotive Technology Program are the following:

1. Diagnose, service, and repair an automobile, which include the modern internal combustion engine, brake system, automatic transmission and transaxle, power train system, electrical system, fuel system, heating and air conditioning system, and the steering and suspension system.

2. Write customer repair orders, estimates, resumes, job applications, and take notes from service manuals.

3. Orally communicates to customers, management, parts person, and other technicians.

4. Use computers to retrieve information for repairs and estimates.

The program map and assessment plan are included in the appendices.

Program learning outcomes (PLOs) 1 and 3 were assessed during Spring semester 2010. Evidence was collected in AMT 30 Engines and in AMT 60 Diagnosis and Repair classes.

II. Evidence and Results of Student Learning

The evidence and methods used to assess the program learning outcomes will be describe separately for each course that was assessed during this review period.

AMT 30 Engines Student Learning Outcomes (SLOs)

I. Describe the use of automotive tools and testing equipment.
II. Explain the principles of operation of the modern internal combustion engine.
III. Demonstrate the principles of diagnosis of the modern internal combustion engine.
IV. Demonstrate the principles of service and repair of the modern internal combustion engine.

AMT 30 Engines

The SLOs 3 and 4 are use to address PLO 1. The student had to demonstrate the principles of diagnosis, service and repairs of the modern internal combustion engine. Students work in teams of three. These SLOs address all the general education standards. The students had to explain to the instructor of what the problem was found in the engine and how they were going to address it. They had to retrieve information through automotive manuals and computer access. Each student had to communicate with their team members in order to complete their assigned project.

The students used their quantitative and creativity reasoning skills were address as they disassembled and reassembled their engines so it could operate properly. This class assignment includes individual classroom studies and lab work as team members.

The SLOs are of industry standards National Automotive Technicians Education Foundation (NATEF). During the AMT 30 Engines class, 22% (4 out of 18 students) showed a very good understanding of the skill needed to service, diagnose and repair of an internal combustion engine. 39% (7 out of 18 students) met expectations, but 39% (7 out of 18 students) did not meet expectations and needed assistance. These students may have not acquired all the tools needed to complete shop task of SLOs, some were not active in lab work and we had students with poor attendance.

AMT 60 Diagnosis & Repair Student Learning Outcomes (SLOs)

I. Demonstrate preparation for the job market in the automotive field.
II. Demonstrate preparation for the ASE certification exams.
III. Demonstrate preparation for the work environment in which they need to diagnose, create estimates and repair vehicles.
IV. Demonstrate preparation to create a resume and prepare them for job interviews

AMT 60 Diagnostic and Repairs (This is the capstone class)

The student learning outcomes for AMT 60 class address all of the Automotive Technology PLOs. Because this is a capstone class it also addresses all of the general education standards. Each student is assessed on each PLO. This class is to prepare the student to be able to function to entry-level industry standards (NATEF).

PLO 1 and 4, students are assessed on the ability to diagnosis, service and perform repairs to various types of vehicles in a timely manner. Performing this PLO allows the student to use their critical thinking, creativity and quantitative reasoning skills. (4 out of 11 students) did very good attaining this skill. 27% (3 out of 11 students) met expectations and 36% (4 out of 11 students) needed much assistance or were not able to master these skills.

PLO 2 and 3 students are assessed on the ability to write customer repair orders, estimates and parts orders. The students had to write a resume, fill a job application and perform in a job interview. This covers the written and oral communication. 36% (4 out of 11 students) did outstanding in achieving these skills. 64% (7 out of 11) were able to meet expectations. Some of these students still have a language barrier, are the first generation to attend college or did not see the importance of attaining this skill.

III. Planned changes

We have just up dated the Automotive Programs curriculum of all the classes to meet NATEF standards. These are industry standards in which is used to prepare our students to be able to successfully function in the automotive field.

Appendices:

- Map of Program Learning Outcomes by Course
- Assessment Plan (Timetable)
- Rubrics AMT 30 Engines and AMT 60 Diagnosis & Repair (Capstone)
- Institutional Data
- Perkins Data

Appendices:

Map of Program Learning Outcomes by Course

	PLO 1	PLO 2	PLO 3	PLO 4
AMT 20	X	X	X	X
AMT 30	X		X	X
AMT 40B	X		X	X
AMT 40C	X		X	X
AMT 40G	X		X	X
AMT 41C	X		X	X
AMT 43	X		X	X
AMT 46	X		X	X
AMT 50	X		X	X
AMT 53	X		X	X
AMT 55	X		X	X
AMT 60	X	X	X	X

Map of General Education Outcomes by Course

	Critical Thinking	Information Retrieval	Quantitative Reasoning	Oral Comm.	Written Comm.	Creativity
AMT 20	2	2	2	1	1	0
AMT 30	2	2	2	1	1	0
AMT 40B	2	2	2	1	1	0
AMT 40C	2	2	2	1	1	0
AMT 40G	2	2	2	1	1	0
AMT 41C	2	2	2	1	1	0
AMT 43	2	2	2	1	1	0
AMT 46	2	2	2	1	1	0
AMT 50	2	2	2	1	1	0
AMT 53	2	2	2	1	1	0
AMT 55	2	2	2	1	1	0
AMT 60	3	3	3	1	2	0

3 Major Emphasis: The student is actively involved (uses, reinforces, applies, and evaluated) in the student learning outcomes. The learner outcome is the focus of the class.

2 Moderate Emphasis: The student uses, reinforces, applies and is evaluated by this learner outcome, but it is not the focus of the class.

1 Minor Emphasis: The student is provided an opportunity to use, reinforce, and apply this learner outcome but does not get evaluated on this learner outcome.

0 No Emphasis: The student does not address this learner outcome.

Program learning outcomes to be assessed each year of the program review cycle. Identify the learning outcomes by number.

Assessment Plan (Timetable)

	SP 2010	**F 2010**	**S 2011**	**F 2011**	**S 2012**	**F 2012**
PLO 1	**AMT 30**			**AMT 43**		
PLO 2	**AMT 60**	**AMT 20**			**AMT 60**	
PLO 3	**AMT 60**		**AMT 53**			
PLO 4	**AMT 60**	**AMT 50**				**AMT4IC**

Assignments to Assess

PLO 1: AMT 30, Students had to show the ability to perform diagnosis, repair and overhauling of a vehicles' engine.
AMT 43, Students had to show the ability to perform diagnosis, estimation and repairs on vehicle with heating and or air conditioning problems.

PLO 2: AMT 20, Students had to show the ability to complete an work order form to perform vehicle maintenance.
AMT 60, Capstone class as part of vehicle repairs a customer work order is required before any work is done.

PLO 3: AMT 53 students have to show the ability to retrieve information from the customer in order to perform repairs needed to vehicle and inform instructor of procedures that they will perform.

AMT 60 Capstone class, as part of the shop work on the assigned vehicle the student has to communicate with the customer before the repairs are done and after the job is completed.

PLO 4: AMT 50 students have to show the ability to retrieve information through the computer programs, in order to complete their assignments.

AMT 41C students have to show the ability to retrieve information through the computer programs, in order to complete their assignments.

AMT 30 Engines Student Learning Outcomes (SLOs)

I. Describe the use of automotive tools and testing equipment.
II. Explain the principles of operation of the modern internal combustion engine.
III. Demonstrate the principles of diagnosis of the modern internal combustion engine.
IV. Demonstrate the principles of service and repair of the modern internal combustion engine.

AMT 30 Engines: Assessment of PLO # 1: Diagnose, service, and repair an automobile, which include the modern internal combustion engine, brake system, automatic transmission and transaxle, power train system, electrical system, fuel system, heating and air conditioning system, and the steering and suspension system.

Assignment	**Assessment**	**Exceeds**	**Meets**	**Needs improvement**	**Insufficient progress**	**N/A**
Assignment: Group Project—Students had to demonstrate the ability to perform diagnosis, service and repair a modern internal combustion engine	See SLOs	4		7		
	Total number of students	**18**				

Program Assessment Rubric for AMT 30 Engines PLO# 1 Spring 2010

PLO: Diagnose, service, and repair an automobile, which include the modern internal combustion engine, brake system, automatic transmission and transaxle, power train system, electrical system, fuel system, heating and air conditioning system, and the steering and suspension system.

Student Learning Outcome	Exceeds	Meets	Needs Improvement	No Proficiency
. Describes the use of automotive tools and testing equipment.	22%	39%	39%	
Explains the principles of the operation of the modern internal combustion engine.	22%	39%	39%	
Demonstrates the principles of diagnosis of the modern internal combustion engine.	22%	39%	39%	
Demonstrates the principles of service and repair of the modern internal combustion engine.	22%	39%	39%	
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Average SLO Score for the Course	22%	39%	39%	

AMT 60 Diagnosis & Repair Student Learning Outcomes (SLOs)

I. Demonstrate preparation for the job market in the automotive field.
II. Demonstrate preparation for the ASE certification exams.
III. Demonstrate preparation for the work environment in which they need to diagnose, create estimates and repair vehicles.
IV. Demonstrate preparation to create a resume and prepare them for job interviews

AMT 60 Diagnosis and Repair: Assessment of PLO 1: Diagnose, service, and repair an automobile, which include the modern internal combustion engine, brake system, automatic transmission and transaxle, power train system, electrical system, fuel system, heating and air conditioning system, and the steering and suspension system.

Assignment	**Assessment**	**Exceeds**	**Meets**	**Needs improvement**	**Insufficient progress**	**N/A**
Assignment: Students had to demonstrate the ability to perform diagnosis, service and repair an automobile.	See SLOs	4	3	2	2	
	Total number of students	**11**				

Program Assessment Rubric for AMT 60 Diagnosis & Repair

PLO 1: Diagnose, service, and repair an automobile, which include the modern internal combustion engine, brake system, automatic transmission and transaxle, power train system, electrical system, fuel system, heating and air conditioning system, and the steering and suspension system.

	Exceeds	Meets	Needs Improvement	No Proficiency
Student Learning Outcome				
Demonstrate preparation for the job market in the automotive field.	36%	27%	18%	18%
Demonstrate preparation for the work environment in which they need to diagnose, create estimates and repair vehicles.	36%	27%	18%	
Average SLO Score for the Course	36%	27%	18%	18%

AMT 60 Diagnosis and Repair: Assessment of PLO 2: Write customer repair orders, estimates, resumes, job applications, and take notes from service manuals.

Assignment	Assessment	Exceeds	Meets	Needs improvement	Insufficient progress	N/A
Assignment: Students had to demonstrate the ability to write customer repair orders, estimates, resumes, job applications and take notes.	See SLOs	4	3	2	2	
	Total number of students	**11**				

Program Assessment Rubric for AMT 60 Diagnosis & Repair

PLO 2: Write customer repair orders, estimates, resumes, job applications, and take notes from service manuals

	Exceeds	Meets	Needs Improvement	No Proficiency
Student Learning Outcome				
. Demonstrate preparation to create a resume and prepare them for job interviews	36%	64%		
Demonstrate preparation for the work environment in which they need to diagnose, create estimates and repair vehicles. .	36%	27%	18%	18%
Average SLO Score for the Course	36%	46%	18%	18%

AMT 60 Diagnosis and Repair: Assessment of PLO 3: Orally communicates to customers, management, parts person, and other technicians.

Assignment	Assessment	Exceeds	Meets	Needs improvement	Insufficient progress	N/A
Assignment: Students had to demonstrate the ability to orally communicate to customers, management, parts persons and other technicians	See SLOs	4	5	2		
	Total number of students	**11**				

Program Assessment Rubric for AMT 60 Diagnosis & Repair

PLO 3: Assessment of PLO 3: Orally communicates to customers, management, parts person, and other technicians

	Exceeds	Meets	Needs Improvement	No Proficiency
Student Learning Outcome				
. Demonstrate preparation to create a resume and prepare them for job interviews	36%	64%		
Demonstrate preparation for the job market in the automotive field .	36%	27%	18%	18%
Average SLO Score for the Course	36%	46%	18%	18%

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AMT 60 Diagnosis and Repair: Assessment of PLO 4: Use computers to retrieve information for repairs and estimates.

Assignment	Assessment	Exceeds	Meets	Needs improvement	Insufficient progress	N/A
Assignment: Students had to demonstrate the ability to use computers to retrieve information for repairs and estimates	See SLOs	9	2			
	Total number of students	**11**				

Program Assessment Rubric for AMT 60 Diagnosis & Repair

PLO 4: Assessment of PLO 4: Use computers to retrieve information for repairs and estimates

	Exceeds	Meets	Needs Improvement	No Proficiency
Student Learning Outcome				
. Demonstrate preparation for the work environment in which they need to diagnose, create estimates and repair vehicles.	81%	18%		
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Average SLO Score for the Course	81%	18%		

General Education Standards Assessments were taken from the AMT 30 Engines, and AMT 60 Diagnosis and Repair courses.

General Education Standards

	Exceeds	Meets	Needs Improvement	No Proficiency
Critical Thinking	26%	42%	22%	10%
Oral Communication	35%	45%	14%	2%
. Written Communication	10%	72%	18%	
Informative Retrieval	86%	11%	3%	
Quantitative Reasoning	35%	38%	17%	10%
Creativity	21%	45%	24%	10%

Annual Report of Program Data for Automotive Technology
University of Hawaii Maui College Program Major(s): AMT

Overall Program Health: Cautionary

	Demand Indicators	Academic Year 08-09	Academic Year 09-10	Demand Health Call
1	New & Replacement Positions (State)	130	77	
2	New & Replacement Positions (County Prorated)	14	8	
3	Number of Majors	54	71	
4	SSH Program Majors in Program Classes	630	697	Unhealthy
5	SSH Non-Majors in Program Classes	17	103	
6	SSH in All Program Classes	647	800	
7	FTE Enrollment in Program Classes	22	27	
8	Total Number of Classes Taught	12	13	

	Efficiency Indicators	Academic Year 08-09	Academic Year 09-10	Efficiency Health Call
9	Average Class Size	13.3	15.9	
10	Fill Rate	83%	100%	
11	FTE BOR Appointed Faculty	2	2	
12	Majors to FTE BOR Appointed Faculty	26.8	35.5	
13	Majors to Analytic FTE Faculty	29.5	37.6	
13a	Analytic FTE Faculty	1.8	1.9	
14	Overall Program Budget Allocation	Not Yet Reported	Not Yet Reported	Healthy
14a	General Funded Budget Allocation	Not Yet Reported	Not Yet Reported	
14b	Special/Federal Budget Allocation	Not Yet Reported	Not Yet Reported	
15	Cost per SSH	Not Yet Reported	Not Yet Reported	
16	Number of Low-Enrolled (<10) Classes	1	0	

	Effectiveness Indicators	Academic Year 08-09	Academic Year 09-10	Effectiveness Health Call
17	Successful Completion (Equivalent C or Higher)	86%	79%	
18	Withdrawals (Grade = W)	1	5	
19	Persistence (Fall to Spring)	66%	67%	
20	Unduplicated Degrees/Certificates Awarded	20	28	
20a	Degrees Awarded	6	4	
20b	Certificates of Achievement Awarded	5	4	Cautionary
20c	Academic Subject Certificates Awarded	0	0	
20d	Other Certificates Awarded	21	43	
21	Transfers to UH 4-yr	0	0	
21a	Transfers with credential from program	0	0	
21b	Transfers without credential from program	0	0	

	Distance Education: Completely On-line Classes	Academic Year 08-09	09-10
22	Number of Distance Education Classes Taught	0	0
23	Enrollment Distance Education Classes	0	0
24	Fill Rate	0%	0%
25	Successful Completion (Equivalent C or Higher)	0%	0%
26	Withdrawals (Grade = W)	0	0
27	Persistence (Fall to Spring Not Limited to Distance Education)	0%	0%

	Perkins IV Core Indicators 2008-2009	Goal	Actual	Met
28	1P1 Technical Skills Attainment	90.00	81.25	Not Met
29	2P1 Completion	44.00	56.25	Met
30	3P1 Student Retention or Transfer	55.00	79.41	Met
31	4P1 Student Placement	50.00	87.50	Met
32	5P1 Nontraditional Participation	16.00	12.50	Not Met
33	5P2 Nontraditional Completion	15.25	14.29	Not Met

The AMT Program continues to address the performance in the areas of 1P1, 1P2 and 2P1, while continuing to address the students' needs in the area of academic and remedial challenges. A high amount of student enrolled in the program are not completing the general education credits, making these students unsuccessful in meeting their graduation requirements. Many of the students in AMT are facing academic and remedial challenges. Industry does not require a degree to be employed. Instead, Industry requires achievement of the ASE (Automotive Service in Excellence) Certification.

In the area of General Education courses, the Program Coordinator has collaborated and partnered with the Physics, Language Arts and Communications programs to support the student success in the non-AMT courses. The AMT program continued a team-teaching with the Physics instructor who was experienced in teaching an applied physics for AMT students. The Physics instructor and AMT Program Coordinator worked together to teach classes with both instructors participating in the instruction. This proved to be successful and students reported grasping the Physics lessons more effectively. In the area of Language Arts, the English 55 instructor has found success in using the NATEF curriculum for the AMT students. The NATEF curriculums, is also being used by the Communications (Speech) instructor.

Continued monitoring and support of the general education classes that AMT students are required to take will continue. In addition, the White Paper Committee (of which the AMT Program Coordinator is a member), for developmental remedial students continue to address strategies to make our students successful. Further, to assist students to increase their English, Math,

and study skills, both instructors and lecturers encourage and introduce all classes to the TLC staff for study skill support. .

In the area of completion, instructors and counselors have aggressively worked with students to move them through the “paper process” of applying for their degrees and certificates. We’ve noted that several of the students who were eligible for certificates have not received them because they are unaware of the application process. Instructors have begun to track students for classes needed to complete for their graduation requirements and encouraging them to increase their grade point average.

Plans for next year

1. Continue to recruit students, including non-traditional, into the AMT program. (College Fairs, shop tours, career fairs, school visitations).

2. Work with Counselor to increase number of students who apply/receive certificates.

3. Promote to students the benefits of applying for/receiving their certificates/degrees as Industry does not require college certificates/degrees.

4. Continue participation on White Paper Committee to increase strategies to address the remedial students success.

5. Continue participation on the Non-Traditional Committee to continue recruitment and retention of students.

6. Continue to work with necessary general education instructors who teach specific courses needed by AMT students. (Team-teaching Physics 50)

7. Continue to bring in TLC tutors to the AMT classes for learning and study skills.

8. Continue towards NATEF certification.

9. Pursue 11-month position for Program Coordinator.

DA END