Colorado State University – Pueblo Academic Program Assessment Report for AY 2013-2014 **Due:** June 2, 2014

Program: Automotive Industry Management **Date:** May 22, 2014

Completed by: Cathi Robbe

Assessment contributors (other faculty involved in this program's assessment: Bill Bencini and Tyrell Smith

Please complete this form for each undergraduate, minor, certificate, and graduate program (e.g., B.A., B.S., and M.S.) in your department. Please copy any addenda (e.g., rubrics) and paste them in this document, and return it to Erin Frew, erin.frew@colostate-pueblo.edu as an email attachment before June 2, 2014. You'll also find the form at the assessment website at http://www.colostate-pueblo.edu/Assessment/Resources/Pages/default.aspx. Thank you.

I. Program student learning outcomes (SLOs) assessed in this cycle, processes, results, and recommendations.

A. Which of the program SLOs were assessed during this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last assessed?	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process.**	D. Who was assessed? Please fully describe the student group.	E. What is the expected achievement level and how many students should be at it?	F. What were the results of the assessment?	G. What were the department's conclusions about student performance?	H. What changes/improvements to the program are planned based on this assessment?
SLO #4 Demonstrate critical thinking and problem solving skills in diagnosis and service of automotive systems.	Not previously tested with an industry validated test	ASE/NATEF Automotive Student Certification Tests; Nine areas	Fourteen (14) students enrolled in AIM 355 Shop Practices	80% pass rate in each area.	85.4% pass (105/127); 66 percentile nationally, five areas above 80% (91%), four areas below 80% (71%)	Excellent results in Electrical/Engine Performance areas Low performers Susp/Steer & Manual Drive See Report below	Bolster instruction in Manual Drive Trains & Suspension & Steering, particularly lab activity organization. Low performing areas(4 credits each) vs. 12-16 in Electrical/Eng Perf area

SLO # 6 Demonstrate employment seeking skills required to obtain an entry level management position in the automotive industry.	n/a	**Employer Survey** (see attachment) Table 1 of the AIM Asst. Plan—Students enrolled in AIM 155, AIM 265 and AIM 405	The Employer Survey was given to every company that held information session at CSU-Pueblo in the Fall of 2014. Students enrolled in AIM 155-22 AIM 265 -17 AIM 405-___	Expected response rate of Employer Survey is 100%. From rubrics and oral presentation templates—80% goal	Employer Survey results of the 4 request only two replied (50%)	Student performance met employer expectations.	Greater response rate from Employers Survey. Perhaps give them during their visit rather than email survey.

					AIM 405 80 % of enrollment to have offers for internships or full time position.	AIM 405 Additional activities needed to tailor to individual student career goals	AIM 405 Interject additional activities as suggested by AIM program coordinator

Comments:

AIM Exit Survey (AES) was available for all 2014 AIM Graduates. Only 27.8% of the graduate participated in the survey, significantly lower than the desired 80% response rate. Three classes (AIM 105, 265 and 405) were identified by the AIM faculty as areas of concern and will be addressed prior to the next course. Some changes are already in the works to be implemented in the Fall of 2014.

Graduate Exit Survey 2014
AIM- Automotive Industry Management
College of Education, Engineering and Professional Studies.
Colorado State University - Pueblo

The Automotive Industry Management (AIM) Department is interested in your perception of the quality of the education you received from Colorado State University - Pueblo, specifically in the AIM program. The primary focus of this assessment is on the content and delivery of courses you completed in the AIM Department. Your response to the following items will have a direct impact on the AIM program and course offerings.

The results of the survey will be summarized **(<u>your individual response will NOT be identified</u>)** and will go directly to the AIM program chair and the AIM faculty for purposes of evaluation and possible modification of the program and curriculum. The survey is anonymous and does not require your name.

1. **I feel that my education at CSU-Pueblo has successfully prepared me to enter the related professional field of my choice.**

A. strongly agree b. agree c. no opinion d. disagree e. strongly disagree
1 2 1

2. **I believe that my preparation in AIM compares favorably with that of graduates from similar programs at other institutions of higher learning in Colorado.**

A. strongly agree b. agree c. no opinion d. disagree e. strongly disagree
2 3

3. **I speak positively to others about the CSU-Pueblo AIM Department and my educational experiences.**

A. always b. most of the time c. about half the time d. occasionally e. never
4 1

4. **The academic advisement provided by the current AIM faculty was helpful and effective.**

A. always b. most of the time c. about half the time d. occasionally e. never
2 2 1

5. **As a whole, the AIM faculty at CSU-Pueblo showed interest in me as a person.**

A. always b. most of the time c. about half the time d. occasionally e. never
4 1

Course Usability/Quality Ratings:
Rate each course that **you completed** at CSU-Pueblo in two areas: **Application** and **Quality**.

The ratings should be based on the following scale:

1 = Very Low application/quality 2 = Low application/quality	3 = Neutral	4 = High application/quality 5 = Very High application/quality

If you did <u>not</u> take a class that is included on the list below, leave the ratings blank and proceed to the next item.

Course	Title	Application	Quality
AIM 105	Intros to Parts & Service Industry	3.0	2.8
AIM 115	Engine Design and Operation	4.25	4.0
AIM 125-125L	Suspension and Brakes	3.25	3.5
AIM 155	Automotive Parts Operations	3.2	3.2
AIM 165	Power Trains & Drive Lines	3.67	4.0
AIM 235	Fuel Systems & Exhaust	3.8	4.4
AIM 245-245L	Electrical Systems I	4.75	4.75
AIM 255- 255L	Electrical Systems II	4.67	4.4
AIM 265-265L	Auto Parts Mgmt	2.8	2.8
AIM 305	Customers Service & Reg Issues	3.4	3.4
AIM 325	Fuels & Lube Production	3.8	4.2
AIM 335	Shop Practices	3.6	4.2

Course	Title	Application	Quality
AIM 345	Advanced Automotive Systems	4.67	4.67
AIM 405	Personal Selling & Techniques	2.3	2.67
AIM 425	Auto Financial Mgmt	3.8	4.0

Please list any topics/courses you feel should be included in the AIM program that are not currently taught:

- *Diesel, High Performance, Hybrid*
- *Small Engines & diesel*
- *Microsoft Excel should be mandatory and more advanced to prepare students for running reports for companies. In my internship experience companies use it a lot.*
- *Basic courses on safety and how to do things in the shop.*

How confident do you feel about your abilities in your chosen field at this time?

- *Fairly confident*
- *I feel pretty confident about my ability to perform learned functions*
- *Strong*
- *Somewhat confident, but would like to see more classes get into more detail on things.*

What were the most valuable things you received from your education at CSU-Pueblo? (Please include comments on assignments, information sessions and field trips)

- *Information sessions from prospective companies*
- *Basic operations of an automobile and how to keep people productive*
- *Career & Internship fairs, student organizations*
- *Information sessions were awesome!*
- *Would be my engineering classes and math classes I took.*

Discuss any improvements that you feel should be made to the AIM curriculum/program and provide a statement of its teaching/learning value:

- *More focus on suspension in brakes and suspension*
- *We could use a larger facility because some of us are working outside in the snow for class.*
- *Diesel program regarding possible positions at Cummins Inc.*
- *The program should be completely overhauled to be able to acquire factory programs such as t-Ten. Become ASE/NATEF certified. Structure the program similar to Weber State.*
- *To have things done on time and ready for students like the dino not being installed and wasting room. Why buy something if you can't use it? Never being able to use the shop because no one is here. Why have a shop if you can never use it?*

Please list another concerns with CSU-Pueblo, The College, AIM Program, Faculty or other services:

- *No real concerns*
- *More programs would be nice, for example, in Ft Collins they have a ski/snowboard team*
- *Humanities credits should be free credits, classes you can choose that interest you.*
- *Having a shop you can never use because no one is ever here. All the tools are either gone or broken and can never find anything.*

When did/will you graduate (check one): 3 May 2014 1 December 2014

The following information is required for tracking/reporting purposes as required by the State of Colorado. Remember, you will not be identified or individually associated with this data:

Have you found a full-time job? 2 Yes 3 No

Is your position in an AIM or related field? 2 Yes 1 N

What is your starting salary: _____ per hour / week / month / year?

$40,000/year and $50,000/year

Signing bonus (if any): $1,000.00

NATEF/ASE Student Certification Initiative
Assessment Report

Introduction

AIM elected ASE Student Certification as the assessment instrument for SLO #4; Demonstrate critical thinking and problem solving skills in the diagnosis and service of automobiles. This is the first time SLO #4 has been assessed with an industry developed and validated test. Previously this SLO was evaluated with instructor in-house developed tests and sporadic reporting of student scores on the ASE technician Certification Tests. .

ASE Technician Certification tests have been the industry standard for assessing technician skill since 1972. However, student rarely pass the tests and are usually deficient in work experience required for certification. Student Certification Tests are direct descendants of the tech tests and were developed specifically to provide an affordable assessment option for automotive education programs. Student exams are specific to the same eight traditional ASE test titles and the nationally validated task list, which questions are developed, is identical for both levels of tests. Students also test in a new ninth area title Maintenance & Light Repair. Scores can be evaluated based on pass rate for each test and also national validated percentile rank statistics.

The Student Certification program was developed in 2009 and has under gone three name changes. At this writing no university level program employs the student cert tests for assessment purposes. CSU-Pueblo AIM is the leader in this initiative.

Overall Results

The exams were administered to the fourteen students enrolled in AIM 355, Shop Practices. A total of 127 tests were taken with 105 tests passed. This is an 85.4% pass rate exceeding the program goal of 80%. National percentile rank was 67%. The highest percentile rank for an individual student was 93.6%. This student has passed five ASE tech level tests and has three years dealership experience. Two other students with nearly identical profile scored in the 90^{th} percentile. One of those two students possesses all required Toyota proprietary training as well as the coveted ASE Master Technician Certification. The next highest overall percentile rank was 73% which indicates the value of a student gaining relative automotive experience during the educational process.

Table I
Results Based on Pass Rate
80% Program Goal
85.4% Pass Rate

MLR	**100%**
Engine Performance,	**93%**
Electrical/Electronics	**93%**
HVAC	**86%**
Brakes	**85%**
Engine Repair	**79%**
Automatic Transmission/Transaxle,	**77%**
Manual Drive Train/Axles,	**64%**
Suspension & Steering	**62%.**

Overall student scores surpassed the 80% pass program goal in five content areas and were less than the goal in four areas. All students (100%) passed the MLR exam (Maintenance & Light Repair). The average pass rate for the five content areas above the goal is 91.4% and the four sub-goal areas 70.5%.

The program faired very well in the high difficulty content areas of Electrical/Electronics and Engine Performance, 93% pass rate each. The remainder content areas above the goal are HVAC 86% pass and Brakes 85%. Two of the four sub-goal areas were right on the cusp; Engine Repair @ 79% and Automatic Transmission/Transaxle, 77% pass rates respectively.

Two content areas scored significantly below the 80% pass goal; Manual Drive Train/Axles, 64% and Suspension & Steering @ 62%. This has precipitated program discussion to identify causes and initiate a remedial plan. One point discussed the unavailability of a working alignment rack to the students who took the tests. Another potential reason is the limited course work experience in the content areas. For example; In the AIM Degree Suspension/Steering/Alignment content is combined with Brakes content. Scores for brake content surpassed the goal @ 85%. Steering suspension was a full 20% less than brakes which supports the lack of alignment experience previously indicated.

The AIM degree also combines Automatic Transmission/Transaxle content with Manual Drive Train content. Automatic Trans, @ 77%, was just below the 80% program goal. However, Manual Dive Trains fell to 64% indicating instruction in this area needs to be strengthened.

Table II

Results Based on National Percentile (66th average)

MLR	**77th**
Brakes	**75th**
Electrical/Electronics	**74th**
Engine Performance,	**68th**
Auto Trans/Transaxles	**65th**
Engine Repair	**64th**
Suspension/Steering	**60th**
HVAC ,	**59th**
Manual Drive Train/Axles,	**52nd**

At this point AIM has not developed a SLO goal based on national percentile. Results based on national percentile, roughly paralleled pass rate trends. The significant outliers were Brakes; 5th place in pass rate percentage but 2nd in national percentile. HVAC score a high pass rate (4th place) but fell four places to 8th place on percentile rank. Other content areas were the same or varied only one place. MLR, Electrical/Electronics and Engine Repair ranked same place in both categories; 1st, 3rd and 6th respectively. All other content areas were within one to two placements in each category. (See Table III at end of report).

The average for all tests was the 66th percentile meaning AIM students, based on these tests, are in the upper 2/3 of all automotive students. Using the 66th percentile average then four content areas were above average and five below average. The four content areas above the 66th average are; MLR @ 77th, Brakes @ 75th, Electrical/Electronics @ 74th, Engine Performance@ 68th. The five below the 66th percentile were Auto trans/Transaxle @ 65th, Engine Repair @ 64th, Suspension/Steering @ 60th, HVAC @ 59th, Manual Drive Train @ 52nd.

Percentile rank fell into three close grouping with groupings separated by 4-6 percentile three content areas were in the top group; MLR @ 77th, Brakes @ 75th, Electrical/Electronics @ 74th. The second close group occupied the mid-60s percentile including Engine Performance @ 68th, Auto Trans/Transaxle @ 65th, Engine Repair 64th. The third close grouping was near the 60th percentile; Suspension/Steering @ 60th and HVAC @ 59th. Manual Trans/Transaxles@ 52nd percentile bottomed significantly below all groupings.

Table III
Ranking; Pass Rate vs. Percentile

Test	Pass Rate Rank	Percentile Rank
MLR	1st	1st
Engine Performance,	2nd	4th
Electrical/Electronics	3rd	3rd
HVAC	4th	8th
Brakes	5th	2nd
Engine Repair	6th	6th
Automatic Transmission/Transaxle,	7th	5th
Manual Drive Train/Axles,	8th	9th
Suspension & Steering	9th	7th

B. Follow-up (closing the loop) on results and activities from previous assessment cycles. In this section, please describe actions taken during this cycle that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) did you address? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed?	C. What were the recommendations for change from the previous assessment?	D. Were the recommendations for change acted upon? If not, why?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
SLO #1 Analyze financial profitability, efficiency and productivity of an automotive industry business.	2013	Addition of rubrics for next cycle 2016	Yes, rubric for Assessing Oral Presentation was used for the first time in Spring 2014—work to modify will be used in Spring 2015.	Results have not be measured==next cycle will be in 2016
SLO #3 Demonstrate knowledge and ability to apply automotive industry health, safety, and environmental regulations.	2013	Clarify SLO for next cycle—comment "to vague"	Yes, rubric for AIM 305 will include 4th column for 2016 Assessment Cycle	Results have not be measured==next cycle will be in 2016