Academic Program Assessment Report for AY 2019-2020

(Due: June 1, 2020)

Program: Automotive Industry Management

Date report completed: May 29, 2020

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Assessment contributors (other faculty involved): N/A

Please describe the 2019-2020 assessment activities and follow-up for your program below. Please complete this form for each undergraduate major, 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, save and submit it to both the Dean of your college/school and to the Executive Director for Assessment and Institutional Effectiveness as an email attachment before June 1, 2020. You'll also find this form on the assessment website at https://www.csupueblo.edu/assessment-and-student-learning/resources.html. Thank you.

Brief statement of Program mission and goals:

I. Assessment of Student Learning Outcomes (SLOs) in this cycle. Including processes, results, and recommendations for improved student learning. Use Column H to describe improvements planned for 2019-2020 based on the assessment process.

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 reported on prior to this cycle? (semester and year)	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process.** Lines	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved (N).	E. What is the expected proficiency level and how many or what proportion of students should be at that level?	F. What were the results of the assessment? (Include the proportion of students meeting proficiency.)	G. What was the department's conclusion about student performance?	H. What changes/improvements to the program are planned based on this assessment?

SLO # 4 will be addressed several times in required AIM courses. Review of technical evaluation exam will be evaluated against specific rubric to evaluate the effectiveness, comprehension and competency level. Results will be shared with AIM faculty and others involved in the AIM Assessment. Upon review of SLO any changes or updates will be discussed and if necessary revisions will be implemented	Yearly through ASE testing	All AIM technical courses are assessed through faculty/instructor observation supported by exam, assignment and lab/shop assignment completion and comprehension AIM annually assesses SLO #4 with the ASE Entry Level standardized industry exams. The ASE exams consist of 10 total exams, A1-A8, MLR, and AST. Exams A1-A8 include individual ASE content areas; A1 Engine Repair, A2 Auto-Transaxle, A3 Manual Transaxle, A4 Steering/Suspension, A5 Brakes, A6 Electrical, A7 HVAC, A8 Engine	AIM 165 Automotive Power trains and Drive (10 students) Cohort assessed were students enrolled in AIM 335 Shop Practices (11 students). This group has completed all AIM technical courses. AIM 335 Repair Orders are accepted and graded for clarity, accuracy and correct technical information regarding the repair.	Goals relative to ASE Entry Level Testing are discussed on pgs7,8 of the attached ASE 2019 report	See attached 2019 ASE Entry Certs Report	See attached 2019 ASE Entry Certs Report	Technical writing will now be required for AIM 115 Engines, 125 Brakes and Suspension, 165 Auto Power Trains, and 235 Fuels Systems courses. Based off a writing assignment in AIM 165 Auto Transmission for S20, (Corona Assignment) technical writing abilities were below faculty/instructor expectations. Encourage AIM student to take Eng 112 Technical Writing in place of ENG 102 for general education requirement ENG 115 will enhance technical writing skills required in the automotive industry and also support business writing skills Requires students to utilize CSU Pueblo Writing Center and other campus resources (library) for assistance

		Performance. MLR & AST tests are comprehensive of all eight content areas but of differing levels of difficulty. 2019 ASE Testing Report is attached. AIM 245/245L, 255/255L & 345 are continuously assessed through Cengage testing and instructor observation of student learning, performance and comprehension of instruction at the end of each chapter. AIM 335 is continuously assessed by instructor observation with student participation in classes, lab project quality, quizzes, unit					

		tests and a final exam. AIM 325 Is assessed by instructor observation quizzes, tests, reports and presentations which are graded by use of a rubric (See Attached).					
SLO #6 will be addressed several times in required AIM course. Employment seeking skills and Employer Survey will be evaluated against a specific rubric and information obtained from a survey of prospective	2013 2016 2019	Employer survey will be sent after college visit either from AIM faculty or with the assistance of the CSU-Pueblo Career Center	AIM students enrolled in AIM 405 Personal Selling Methods and Techniques. Fall 2019. Course description: Research, preparation and presentation methods and techniques for selling in the automotive milieu	Expected proficiency would be 100% based on career placement. Currently AIM averages a placement rate in automotive related fields around 97%	Fall 2019 was an unusual year for AIM and the number of visits from automotive companies seeking to hire.	Electronic employment searches replaced info sessions during F19. Post electronic screening several candidates were granted phone then in-person interviews	Increased emphasis and use of The Big Interview a web-based subscription service offered thru CSU-Pueblo Career Services which assists students in developing live-interview skills. This service will be supported by classroom instruction, faculty support and career center administration Explore opportunities with Career Services for remote delivery of information sessions, interview and career placement to meet current industry needs.

employers of AIM students. Results will be shared with AIM faculty and others involved in the AIM Assessment. Upon review of SLO any changes or updates will be discussed and if necessary revisions will be implemented							Realizing the "new" world interview processes due to Covid 19—this will be an ongoing and as need process to meet manufactures specific needs. AIM faculty will keep abreast of manufactures recruiting needs and address promptly Section of 405 Syllabus , as documentation, appears on page 5 & 6

Student Exit Survey	2014, 2015, 2017, 2018 Due to Covid 19 the 2019-2020 exit survey was not available for students to complete. Follow up will be done in the Fall 2020	Student exit survey is usually made available through the CEEPS Administrative Assistant Office. Student could fill out and return survey anonymously. Results were calculated and provide to AIM faculty to submit for AIM Assessment	All graduating AIM students	100 % participation is expected, AIM average around 90% as not all student provided feedback on Exit Survey Currently working to make Exit Survey available to all AIM graduates, follow up pending	To be addressed at a later date	To be addressed at a later date	To be addressed at a later date

II. Closing the Loop. Describe at least one data-informed change to your curriculum during the 2019-2020 cycles. These are those that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) or other issues did you address in this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last assessed to generate the data which informed the change? Please indicate the semester and year.	C. What were the recommendations for change from the previous assessment column H and/or feedback?	D. How were the recommendations for change acted upon?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
SLO # 2 will be addressed several times in required AIM courses. Business contact and Case Study Reports will be evaluated against a rubric to evaluate effectiveness, comprehension and competency level	Spring 2015, 2018	Feedback 2018 assessment "A more formal survey will be given to dealer contact people to evaluate and improve teaching" SLO # 2 Business Contact: Students in AIM 265 and AIM 425 were placed in Pueblo dealerships or retails stores during the Spring of 2020, however due to the Covid 19 circumstances somewhere unable to complete the on-sight learning experience and placement assignments. Students were instructed to research businesses further through internet search and phone interviews While the results vary topics in both classes were covered to meet instructor satisfaction.	Successful placement of all students was achieved at local automotive dealership and retail stores. This placement is very beneficial and strengthens students learning experience with hands on business operations as they relate to classroom instruction.	Change in instruction and placement is very positive from student classroom comments. Some students received job offers from class placement or have expanded their learning experience. While these two courses (AIM 265 and AIM 425) are not technical classes, writing and presentation skills of placement and course discussion does enhance student interaction with businesses and addresses business operations and customer interaction skills essential in all levels of the automotive industry beyond technical skills and learning. Future plan with AIM moving to HSB will be to have the AIM business courses (AIM 155, AIM 265, AIM 305 and AIM 425) offered online to expand and make available to others already in the industry, especially in the business operations, environmental related concerns and customer service areas f the industry.

		SLO #2 Case Study AIM 305 Regulatory, Environmental, Health Issues will introduce sections of instruction using Cengage. Plan to address "remote learning" in Fall 2020 which will include research of industry and other related world events that effect the operations of business. Development in the process and pending.		

Comments on part II:

The AIM faculty plans to effectively and efficiently address a "new teaching" format due to the Covid 19 pandemic. The automotive industry requires "hands-on" learning supported by instructional observation and confirmation of student understating and technical and managerial abilities.

While lectures, information sessions, interview processes, career placement, cases studies including research and technical writing can be provided and accomplished in a remote learning atmosphere---the "hands-on" instructional experience in shop/laboratory courses is essential to evaluate student learning, understanding and comprehension of accurate diagnosis, safe working practices and professional repair requiring observation by AIM instructor.

Attachments and Supporting Documentation:

#4) Demonstrate critical thinking and problem solving in the diagnosis, sales and service of automotive systems.

#6) Develop professional writing and oral presentation skills regarding techniques for selling in the automotive industry.

#7) Develop employment seeking skills and compile professional development portfolio commensurate with AIM degree and entry level management positions within the automotive industry.

AIM 405 Syllabus
F20

Evaluation & Grades

Course Grade

Course grade scale

100%	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**D**
	93%	**90%**	**87%**	**83%**	**80%**	**77%**	**70%**	**69%**

Final course grade will be determined by the total number of points earned divided by the total number of points possible and is based on the following activities.

#1) Presentations (100 points, 25% of grade);

Student is required to deliver five (5) presentations; four individual and one group. Each presentation (Except for the initial of course) must be automotive related and is assigned 20 points. Presentation is evaluated by instructor only. Peer audience provides input/discussion but is not part of the evaluation process. Business casual required for presentations.

Required Topic for presentations includes the following;

- Self, personal background and career goals
- Idea/Concept
- Product
- Service or Product Training

#2) Resume, letters of interest and follow-up activities (50 points,)

Student is required to develop a professional resume which will be initially reviewed by staff at Career Services. Resume and follow-up activities are integral components of **Requirement #3** below.

#3) Employment Seeking Skills (100 points)

Student is required to select five potential employers, research the employer including; hiring/recruiting procedures, identify five vacancies for potential employment/internship (this does not include info session companies) and apply for the vacancies of choice (20 points per app). A written report/summary reviewing each of the five application process and results is required.

#5) **Information Sessions (50 points**)

Student is required to attend evening info session and interview the next day. A written report is required for each information session. During F19 the quantity of in-person info sessions fell to zero. It is anticipated this trend will continue in F20 semester, in fact be worsened by the Corona virus interruptions. For this reason expect **Requirement #6,** The Big Interview to see increased participation in the 405.

#6) The Big Interview

The Big Interview is a web based service offered thru CSUP Career Services that assists in developing effective Interviewing skills. There is no cost to the student for Big Interview and registration is thru the CSUP Career Service Webpage. Big Interview will see increased emphasis in required course activities due to the drastic decrease in in-person info sessions. Point assigned to Big Interview and contribution to course grade is yet to be determined

#4) Attendance (50 points)

Classroom attendance is required, tracked and posted on Blackboard. AIM 405 consists of 45 class meetings assigned one (1) per class period. This totals 45 points for the semester but is rounded up to 50 points allowing a five (5) point grace period. Stated another way; five absences from class still earns the entire 50 points allotted for lecture attendance. Attendance can make ….or break……your course grade by one letter grade. It is your choice and your responsibility.

#7) Notebook (50 points)

Student is required to maintain a notebook consisting of all completed

assignments and tests. Notebook is evaluated for completeness and organization.

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Introduction

2018 marks the 6th consecutive year AIM has used the ASE Student Certification Exams for assessment of SLO #4; ***Demonstrate critical thinking and problem solving skills in the diagnosis and service of automobiles.*** There examination series includes 10 tests;

1. Engine Repair
2. Automatic Transmission/Transaxle
3. Manual Transmission/Drive Train
4. Suspension & Steering
5. Brakes
6. Electrical/Electronics
7. HVAC.
8. Engine Performance
9. MLR

10. AST

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Tests #1-8 evaluate the traditional eight technical areas of the automobile. MLR (Maintenance & Light Repair) includes basic content from these eight areas where as AST (Automobile Service Technician) exam evaluates all eight areas on an advanced level.

Data Collection

Data collection and calculations for AIM's annual assessment of SLO #4 include;

1. **% scores**
   - Each Student; Tests 1-8, (per test), 1-8 average, MLR, AST, All Tests.
2. **% Score Averages**
   - Each Student, Tests 1-8 (per test), 1-8 average, MLR, AST, All Tests
   - Cohort average; Tests 1-8 (per test),), 1-8 average, MLR, AST, All Tests
   - Running Annual average; Tests 1-8 (per test,) 1-8 cohort, MLR, AST, All Tests

Data Collection (cont)

3. **National Percentile Rank**
   - Each Student; Tests 1-8, (per test), 1-8 average, MLR, AST, All Tests
   - NPR stats are not available until June 15th. So the 2019 report includes 2018 NPR
4. **National Percentile Rank Averages**
   - Each Student, Tests 1-8 (per test), 1-8 average, MLR, AST, All Tests
   - Cohort average; Tests 1-8 (per test),), 1-8 average, MLR, AST, All Tests
   - Running Annual Average; Tests 1-8 (per test,) 1-8 cohort, MLR, AST, All Tests

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Calculation Procedure

% Score

Enter #/correct answers into spread sheet that calculates percent score.

- Tests 1-8 are 40 questions,
- MLR is 60 questions,
- AST is 80 questions

National Percentile Calculation Procedure

- Cross reference #/correct answers in the National Percentile table provided by ASE (post June 15th
- Enter NP into spread sheet that calculates averages.

2019 National Percentile Chart is not available until June 15th 2018.

This report then includes 2019 % score analysis and 2018 National Percentile Rank Analysis.

Data Tables & Graphs

Appearing below are Five (5) statistical charts;

#1) 2019 % Raw Score

#2) 2019 # of Correct Answers (Basis for eventual National Percentile Rank)

#3) 2019 Test 1-8 cohort % Raw Score Averages (Bar Graph)

#4) Six Year Running Average of % Raw Score

#5) Five Year Running Average of National Percentile Rank

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Name	ER	AT	MT	SS	Br	EI	HVAC	EP	MLR	AST	MLR-AST	All Tests
Colton	90	90	77.5	82.5	90	85	83.5	97.5	85	95	90	87.6
Brandon	85	92.5	75	70	82	90	90	85	88.3	90	89.15	84.78
Noah	60	62	70	52.5	57.5	77.5	50	57.5	80	70	75	63.7
Kyle	67.5	70	60	50	42.5	62	76.5	55	76.7	65	70.85	62.52
Scott	75	62.5		50	57.5		57.5		71.7		71.7	62.36667
Brian	77.5	70	75	67.5	60	67.5	65	70	76.7	77.5	77.1	70.67
Troy	65	70	52.5	45	47.5	42.5	60	52.5				54.375
Nate	72.5	72.5	70	60	47.5	77.5	65	77.5	63.3	68.8	66.05	67.46
Mark	75	80	77.5	67.5	77.5	87.5	70	80	90	81.3	85.65	78.63
Average	74.16667	74.38889	69.6875	60.55556	62.44444	73.6875	68.61111	71.875	78.9625	78.2286	78.1875	71.26077
												70.23352
												70.98571

2019 % Score

#1) 2019 % Raw Score

Data Tables & Graphs (cont)

Name	ER	AT	MT	SS	Br	EI	HVAC	EP	MLR	AST	MLR-AST	All Tests	A1-A8
Colton	36	36	31	33	36	34	33	39	51	76	63.5	40.5	27.55072
Brandon	34	37	30	28	32	36	36	34	53	72	62.5	39.2	
Noah	24	26	28	21	23	31	20	23	48	56	52	30	
Kyle	27	28	24	20	17	25	23	22	46	52	49	28.4	
Scott	30	25		20	23		23		43		43	27.33333	
Brian	31	28	30	27	24	27	26	28	46	62	54	32.9	
Troy	26	23	21	18	19	17	24	21				21.125	
Nate	29	29	28	24	19	31	26	31	38	55	46.5	28.33333	
Mark	30	32	31	27	31	35	28	32	54	65	59.5	36.5	
Average	29.66667	29.33333	27.875	24.22222	24.88889	29.5	26.55556	28.75	47.375	62.5714	53.75	33.07381	
												31.58796	
												32.43338	

2019 # correct Answers

#2) 2019 # of Correct Answers (Basis for eventual National Percentile Rank)

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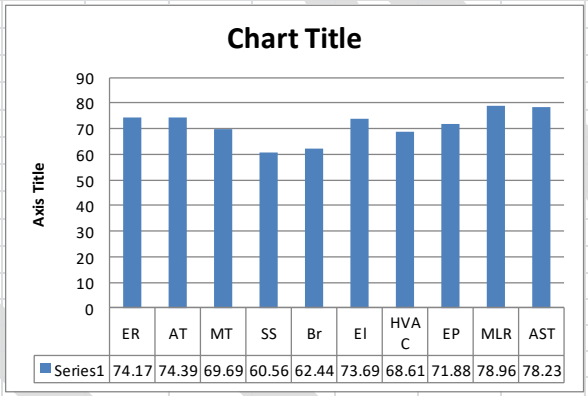
	74.16667	74.38889	69.6875	60.55556	62.44444	73.6875	68.61111	71.875	78.9625	78.22857	78.1875

ER	74.16667
AT	74.38889
MT	69.6875
SS	60.55556
Br	62.44444
El	73.6875
HVAC	68.61111
EP	71.875
MLR	78.9625
AST	78.22857



#3) 2019 Test 1-8 cohort % Raw Score Averages (Bar Graph)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	**2 yr**	**3 yr**	4 yr	5 yr	6 Yr			
Eng Rpr	52	59	84	71	66	74.2							55.5	65	66.5	66.4	67.7	67.7		
AT	67	57	72.5	69	63	70							62	65.5	66.375	65.7	66.41667	66.41667		
MT	57	50	71	61	58	65							53.5	59.33333	59.75	59.4	60.33333	60.33333		**ASE**
SS	57	50	60	61	57	61							53.5	57	57	57	57.66667	57.66667		**% Score**
Brakes	67	56	68	60	58	62							61.5	63.66667	62.75	61.8	61.83333	61.83333		**Averages**
Elec	66	67	76	66	67	69							66.5	69.66667	68.75	68.4	68.5	68.5		**Running Averages**
HVAC	60	60	76	62	58	63							60	65.33333	64.5	63.2	63.16667	63.16667		
Eng Perf	66	60	78	65	63	69							63	68	67.25	66.4	66.83333	66.83333		
MLR	73	66	81	69	68	78							69.5	73.3333	72.25	71.4	72.5	72.5		
AST			80	71	67	80								80	75.5	72.6667	74.5	74.5		
MLR-AST			81	70	67	77								81	75.5	72.66667	74.5	73.42857		
all tests	62.78	58.33	75	64	63	69.1							60.55556	65.3704	64	64.6222	65.65	65.65		
A1-8	61.5	57.38	74	65	62	66.7							60.55556	64.2917	64.4688	63.975	64.0563	64.05625		
				All tests		**69**														
				A1-A8		**67**														

#4) Six Year running average of % Raw Score

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Data Tables & Graphs (cont)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2yr 2015	3yr 2016	4yr 2017	5yr 2018
Eng Rpr	64	50	86	69	69								57	66.66667	67.25	67.6
AT	52	50	86	71	66								51	62.66667	64.75	65
MT	52	42	77	60	63								47	57	57.75	58.8
SS	60	48	72	70	72								54	60	62.5	64.4
Brakes	75	58	80	66	68								66.5	71	69.75	69.4
Elec	74	75	83	74	70								74.5	77.33333	76.5	75.2
HVAC	59	57	80	67	61								58	65.33333	65.75	64.8
Eng Perf	68	57	89	74	69								62.5	71.33333	72	71.4
MLR	77	68	90	81	80								72.5	78.3333	79	79.2
AST			86	77	71									86	81.5	78
A1-8	63	54.63	82.56	68.9	67.25								58.8125	66.7269	67.2639	67.075
MLR-AST			88	79	75									88	83.5	80.6667
all tests	64.56	56.11	82.9	70.9	69								60.33333	67.85556	68.6167	69.38
			All Tests		**69**											67.41581
			A1-A8		**67**											

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National Percentile
Running Average

#5) Five Year Running Average of National Percentile Rank

% Raw Scores Analysis

1) All Tests cohort
2) Tests 1-8 % cohort
3) MLR cohort
4) AST cohort
5) Underperforming Tests/Content Areas
6) Content areas with significant improvement

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1) <u>All Tests cohort</u>
   Results indicate a slightly above average year, (+1% increase) compared to the Five Year % Raw Score Average, 65.7%/64.6 %
2) <u>Tests 1-8 % cohort</u>
   Results indicate a solid 2.7% score increase compared to the Five Year % Raw Score Average 66.7 %/64.0%
3) MLR is a comprehensive tests covering all 8 technical areas. MLR improved significantly compared to Five Year Averages; MLR 79/71.4, +7.6% increase
4) AST is a comprehensive tests covering all 8 technical areas but item difficulty is greater than in MLR. AST improved significantly compared to Five Year Averages; AST 80.0%/72.7%, + 7.3% increase. This equals the high performing 2016 cohort

   It is important to not that MLR & AST scores consistently average 12-13 percentage points greater than the Tests 1-8 Average. Perhaps this difference indicates the 1-8 series covers the content in greater depth.

<u>% Raw Scores Analysis (cont)</u>

5) <u>Under Performing Tests</u>
   Suspension/Steering @ 60.5 % & **Brakes** 62.4% @ continue to perform significantly below all other content areas. The next lowest content areas are **HVAC** @ 68.6% and **Manual Trans** @ 69.7%. The other four remaining content areas average in the mid 70's.

   This places **SS & BR,** which are the least technical, entry level content areas 10-14% under the highest performing content areas which include more complex content. In fact these two content areas significantly reduce the cohort average holding it to approximately 66%. Other content areas, **MT, HVAC & MP** have improved to 70% and three, **ER, AT, EL** to the mid 70's.

6) 2019 Raw Scores in Automatic Transmission/Trans-axle and Manual Transmission & Drivelines improved dramatically. These two content areas were traditionally low performing along the level of SS and BR. Steady improvement is noted during the last two years with the most improvement in AT which has now very close to (0.7% under) the Cohort Tests 1-8 Average Raw Score. 65.7%/66.4%

   MT, although increasing dramatically in 2019, remains the lowest performing content area at 60% Average Cohort Raw Score which is 6% below the Five Year Cohort Average Raw Score of 66%.

   The following compares 2019 raw scores to the five Year Average Raw Score;
   AT – 74.4%/65.7%, +8.7% increase
   MT - 69.7%/59.4%, + 10.3% increase

2018 National Percentile Rank Analysis

Comparing 2018 National Percentile Ranks to the Four Year National Percentile Average indicate dead heats in items #1, #2, #3. However AST significantly declined.

1) All Tests cohort ; 69th/68.6th
2) Tests 1-8 % cohort ; 67.25th/67.07
3) MLR - 80th/79.2th
4) AST – 71st/ 78th

Summary

Raw Scores

Raw scores improved in every content area except AST where a significant decrease of -10% occurred. However, overall in the 12 categories analyzed in this report AIM experienced almost a 4% increase (+3.92%) in average Raw Scores. See table below.

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	2019 % Raw Score	% Raw Score 5-Yr Average	2019/5 Yr Average	2019/5 Yr Average %
ER	74	66.4	+7.6	+11.4%
AT	70	65.7	+4.3	+6.5%
MT	65	59.4	+5.6	+9.4%
SS	61	57	+4.0	+7.0%
BR	62	61.8	+0.2	+0.3%
EL	69	68.4	+0.6	+0.8%
HVAC	63	63.2	+0.2	+0.3%
EP	69	66.4	+2.6	+3.9%
MLR	78	71.4	+6.6	+9.2%
AST	80	72.7	-7.3	-10.0%
1-8	66.7	64.6	+2.1	+3.2%
All Tests	69	72.7	+3.7	+5.0%
Overall				3.92%

Table of Raw Scores; 2019 compared to five year average

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Summary

2018 National Percentile Rank

2018 NPR was split 6-6 among the 12 areas analyzed; 6 increased NPR and six decreased NPR. Overall AIM dropped in NPR by 1.4%. However Test 1-8 experienced a modest 0.4% increase.

	2018 NPR	NPR 5-Yr Average	2018 NPR/5 Yr Change	2019/5 Yr Average
ER	69	67.6	+1.4%	+2.0%
AT	66	65	+1.0%	+1.5%
MT	63	58.8	+1.2%	+2.0%
SS	72	64	+8.0%	+12.5%
BR	68	69.4	-1.4%	-2.0%
EL	70	75.2	-5.2%	-6.9%
HVAC	61	64.8	-3.8%	-5.9%
EP	69	71.4	-2.4%	-3.4%
MLR	80	79.2	+0.8%	+8.7%
AST	71	78	-7.0%	-9.0%
1-8	67.3	67	+0.3%	0.4%
All Tests	69	69.4	-0.4%	-5.8%
Overall				-1.4%

2018 National Percentile Rank

Program Expectations & Goals

When AIM first began ASE Entry Level Certification Exams initial goals were not clearly defined. In fact, an arbitrary goal of an 80% pass rate was the only established goal. AIM has surpassed this goal each of the annual test cycle and therefore is not a significant goal for future achievement and improvement.

It is difficult to establish concrete goals in the absence of performance stats from other equivalent programs. AIM has attempted to convince other UATA universities And schools within the Rocky Mountain Automotive Teacher's Society to administer the tests in their programs. At this juncture no one is interested in using ASE student Certification exams as their internal assessment instrument.

However, after six years of testing trends are becoming clear. One is the consistent, significantly below average performance in Brakes, Steer/Suspension and Manual Drive Trains. Perhaps curriculum proposal changes necessary to address these traditional sub-performing content areas. Of course improving these scores at least into the low 60's % will constitute a great improvement. However the overall question remains, What performance level is within AIM capabilities?

To answer that question we must examine the results from a group of 15 AIM students who performed significantly above the averages. Overall this group averaged 80% for all tests with a National percentile Rank of 88th (80%/88th). However, this group can be further divided into three distinct divisions, one of which is most typical of the "average" high performing AIM student.

The 1st group was the highest performing group consisting of three individuals who, during their AIM education worked all four years at a dealership. This group averaged 87%/96th. This level is performance is not realistic for AIM because the program does not have the clock hours available to sponsor the extensive experience and training these students gleaned at the dealership.

The 2nd group performed at an 84%/90th level. This group had a great deal of relative industrial experience at part retailers and other related automotive service facilities. But their level of experience was short of the ultimate level of experience gleaned by the 1st group.

The 3rd and final group is the most likely example for the AIM achievement goal. This group of nine students scored 70%/83rd. These were serious, very capable, studious individuals who took the program seriously. Again, they did not have the practical experience of even the 2nd group but they applied themselves to the content.

Currently, inclusive of 2019 Raw scores and 2018 NPR, AIM average is 69%/71th so is 3rd group achievement level (70%/80th) possible for AIM? An important point to make is the 2016 test cycle achieved @ 74%/81st. Perhaps this is a long term goal achievable with slow, steady growth of perhaps 2% per year.

Improving just the traditional low performing content areas to par will provide a significant boost to the cohort scores. It also must be noted that every test cycle features a few very low performing students, of which one or two can significantly skew the overall average scores. It is reasonable every AIM student should pass all 10 of the ASE Entry Level Tests. Please understand the ASE tests are multiple choice, 0.62 level of difficulty, 50 % score to pass. This 50% score places a student right at the apex of the bell curve. Should not a college, rather a university level program, expect this as the **MINIMUM** level of performance from their students? After the 2018/19 Academic year test Cycle ASE is changing test design from the Standard P+ method to IRT (Individual Response Theory) method. The significance of this to statistical analysis is yet to be determined.