

Assessment Impact by Course Objectives  
Palau Community College  
Program (AM) - Automotive Mechanics Technology

**Program (AM) - Automotive Mechanics Technology**

**CLO: AM 227 - Traction Control: CLO 1**

Service Anti-lock Brake System Motor Assembly

**CLO Assessment Cycle:** 2014-2015 (Spring 2015)

**CLO Status:** Active

| Means of Assessment  |   |       |        |
|--|---|-------|--------|
| Means of Assessment  | Expected Student Performance  | Notes | Active |
| Explain the operating principles of the anti-lock brake system.<br><b>Signature assignment:</b><br>Final Exam  | 70% of the students assessed will perform at the proficiency level. |       | Yes    |
| Measure supply voltage to the anti-lock brake system (ABS) motor; gather specifications; test motor relay; and remove and replace the ABS motor assembly.<br><b>Signature assignment:</b><br>Skill Sheet | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

| Results   |  |           |                           |
|---|--|-----------|---------------------------|
| Summary of Data Collected   | Use of Results   | Follow-Up | Semester Assessed         |
| Final Exam - 06/03/2015 - 63.6% Of the students assessed performed at the proficiency level<br><b>Expected Student Performance Met:</b><br>No<br><b>Related Documents:</b><br><a href="#">AM-227 final exam spring 2015.pdf</a> | 06/04/2015 - Actual results:<br>7 out of 11 students are proficient; 6 are competent and 1 is highly competent. Therefore, 63.6% of the students assessed passed the knowledge test.<br><br>Analyzed results:<br>Students have problems on grasping the concepts of anti-lock brake system motor assembly.<br><br>Recommendations:<br>CLO #1 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that prevents the brakes from locking during hard braking.<br><br>Action Plan:<br>CLO #1 must be revised before September 2015 to Service Anti-Lock Brake System.<br>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).<br>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #1; students are encourage to come in the shop on |           | 2014 - 2015 (Spring 2015) |

**Results**

| Summary of Data Collected   | Use of Results  | Follow-Up | Semester Assessed                |
|---|---|-----------|----------------------------------|
|   | <p>their free time for knowledge and skills enhancement.</p> <p>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</p> <p>3.) Set-up work stations for all the CLOs of AM-227</p> <p>4.) Set-up film viewing</p>   |           |                                  |
| <p>Skill Sheet - 06/03/2015 - 91% Of the students assessed performed at the proficiency level</p> <p><b>Expected Student Performance Met:</b><br/>Yes</p> <p><b>Related Documents:</b><br/><a href="#">AM-227 skills assessment spring 2015.pdf</a></p> | <p>06/04/2015 - Actual results:<br/>10 out of 11 students are proficient; 8 are competent and 2 are highly competent. Therefore, 91% of the students assessed passed the skills assessment.</p> <p>Analyzed results:<br/>The result of skills assessment was good, but the highly competent students are less than the number of competent students.</p> <p>Recommendations:<br/>CLO #1 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that prevents the brakes from locking during hard braking.</p> <p>Action Plan:<br/>CLO #1 must be revised before September 2015 to Service Anti-Lock Brake System.<br/>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).</p> <p>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #1; students are encourage to come in the shop on their free time for knowledge and skills enhancement.</p> <p>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</p> <p>3.) Set-up work stations for all the CLOs of AM-227</p> <p>4.) Set-up film viewing</p> <p>5.) Conduct in-house Skills Olympic</p> |           | <p>2014 - 2015 (Spring 2015)</p> |
| <p>Skill Sheet - 07/24/2014 - 33% of the students assessed performed at the proficiency level.</p> <p><b>Expected Student Performance Met:</b><br/>No</p> <p><b>Related Documents:</b><br/><a href="#">AM227 skills sp14.pdf</a></p>                    | <p>07/24/2014 - More time needs to be spent on practicing these related skills.</p>   |           | <p>2013 - 2014 (Spring 2014)</p> |

| Results  |   |           |                           |
|--|---|-----------|---------------------------|
| Summary of Data Collected  | Use of Results                              | Follow-Up | Semester Assessed         |
| Final Exam - 07/24/2014 - 100% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>Yes<br><b>Related Documents:</b><br><a href="#">AM227 fe sp14.pdf</a> | 07/24/2014 - No action needed at this time. |           | 2013 - 2014 (Spring 2014) |

**CLO: AM 227 - Traction Control: CLO 2**

Service Anti-lock Brake System Control Module

**CLO Assessment Cycle:** 2014-2015 (Spring 2015)

**CLO Status:** Active

| Means of Assessment  |   |       |        |
|--|---|-------|--------|
| Means of Assessment  | Expected Student Performance  | Notes | Active |
| Explain the operating principles of the ABS module and define its interactive relationship with its sensors and actuators.<br><b>Signature assignment:</b><br>Final Exam   | 70% of the students assessed will perform at the proficiency level. |       | Yes    |
| Gather and interpret trouble codes according to specifications; measure module input and output voltage; and remove and replace module, its sensors, and its actuators.<br><b>Signature assignment:</b><br>Skill Sheet | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

| Results  |   |           |                           |
|--|---|-----------|---------------------------|
| Summary of Data Collected  | Use of Results  | Follow-Up | Semester Assessed         |
| Final Exam - 06/03/2015 - 73% Of the students assessed performed at the proficiency level<br><b>Expected Student Performance Met:</b><br>Yes<br><b>Related Documents:</b><br><a href="#">AM-227 final exam spring 2015.pdf</a> | 06/04/2015 - Actual results:<br>8 out of 11 students are proficient; 8 are competent and none is highly competent. Therefore, 73% of the students assessed passed the knowledge test.<br><br>Analyzed results:<br>The knowledge test result was good, but the highly competent students are less than the number of competent students.<br><br>Recommendations:<br>CLO #2 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that maintains steering stability during hard braking, swerving and cornering too quickly.<br><br>Action Plan:<br>CLO #2 must be revised before September 2015 to |           | 2014 - 2015 (Spring 2015) |

**Results**

| Summary of Data Collected  | Use of Results  | Follow-Up | Semester Assessed                |
|--|---|-----------|----------------------------------|
|  | <p>Service Electronic Stability Control.<br/>                     Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).</p> <ol style="list-style-type: none"> <li>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #2; students are encourage to come in the shop on their free time for knowledge and skills enhancement.</li> <li>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</li> <li>3.) Set-up work stations for all the CLOs of AM-227</li> <li>4.) Set-up film viewing</li> <li>5.) Conduct in-house Skills Olympic</li> </ol>   |           |                                  |
| <p>Skill Sheet - 06/03/2015 - 82% Of the students assessed performed at the proficiency level</p> <p><b>Expected Student Performance Met:</b><br/>Yes</p> <p><b>Related Documents:</b><br/> <a href="#">AM-227 skills assessment spring 2015.pdf</a></p> | <p>06/04/2015 - Actual results:<br/>                     9 out of 11 students are proficient; 7 are competent and 2 are highly competent. Therefore, 82% of the students assessed passed the skills assessment.</p> <p>Analyzed results:<br/>                     The result of skills assessment was good, but the highly competent students are less than the number of competent students.</p> <p>Recommendations:<br/>                     CLO #2 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that maintains steering stability during hard braking and cornering too quickly.</p> <p>Action Plan:<br/>                     CLO #2 must be revised before September 2015 to Service Electronic Stability Control.<br/>                     Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).</p> <ol style="list-style-type: none"> <li>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #2; students are encourage to come in the shop on their free time for knowledge and skills enhancement.</li> <li>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</li> <li>3.) Set-up work stations for all the CLOs of AM-227</li> <li>4.) Set-up film viewing</li> </ol> |           | <p>2014 - 2015 (Spring 2015)</p> |

| Results   |  |           |                           |
|---|--|-----------|---------------------------|
| Summary of Data Collected   | Use of Results   | Follow-Up | Semester Assessed         |
|   | 5.) Conduct in-house Skills Olympic  |           |                           |
| Skill Sheet - 07/24/2014 - 67% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>No<br><b>Related Documents:</b><br><a href="#">AM227 skills sp14.pdf</a> | 07/24/2014 - More time needs to be spent on practicing these related skills. |           | 2013 - 2014 (Spring 2014) |
| Final Exam - 07/24/2014 - 100% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>Yes<br><b>Related Documents:</b><br><a href="#">AM227 fe sp14.pdf</a>    | 07/24/2014 - No action needed at this time.                                  |           | 2013 - 2014 (Spring 2014) |

### CLO: AM 227 - Traction Control: CLO 3

Service Suspension Height Control System

**CLO Assessment Cycle:** 2014-2015 (Spring 2015)

**CLO Status:** Active

| Means of Assessment  |   |       |        |
|--|---|-------|--------|
| Means of Assessment  | Expected Student Performance  | Notes | Active |
| Explain the operating principles of the suspension height control system.<br><b>Signature assignment:</b><br>Final Exam  | 70% of the students assessed will perform at the proficiency level. |       | Yes    |
| Gather voltage readings and specifications; compare readings to specifications; and remove and replace main components.<br><b>Signature assignment:</b><br>Skill Sheet | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

| Results  |   |           |                           |
|--|---|-----------|---------------------------|
| Summary of Data Collected  | Use of Results  | Follow-Up | Semester Assessed         |
| Final Exam - 06/03/2015 - 82% Of the students assessed performed at the proficiency level<br><b>Expected Student Performance Met:</b><br>Yes<br><b>Related Documents:</b><br><a href="#">AM-227 final exam spring 2015.pdf</a> | 06/04/2015 - Actual results:<br>9 out of 11 students are proficient; 9 are competent and none is highly competent. Therefore, 82% of the students assessed passed the knowledge test.<br><br>Analyzed results:<br>The knowledge test result was good but none of the students have reached the highly competent level.<br><br>Recommendations:<br>1.) Set-up film showing to motivate the |           | 2014 - 2015 (Spring 2015) |

## Results

| Summary of Data Collected | Use of Results  | Follow-Up | Semester Assessed |
|---------------------------|---|-----------|-------------------|
|                           | <p>students to participate in class discussion and reporting.</p> <p>2.) Add repair manuals to help the students know the concepts and specifications of Suspension Height Control System.</p> <p>Action Plan:</p> <p>1.) Purchase repair manuals (e-copy and in print) before December 2015.</p> <p>2.) Purchase a DVD movie that correlates Front Suspension Height Control System before December 2015.</p> <p>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).</p> <p>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #3; students are encourage to come in the shop on their free time for knowledge and skills enhancement.</p> <p>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</p> <p>3.) Set-up work stations for all the CLOs of AM-227</p> <p>4.) Set-up film viewing</p> |           |                   |

|   |  |                                  |
|---|--|----------------------------------|
| <p>Skill Sheet - 06/03/2015 - 54.5% Of the students assessed performed at the proficiency level</p> <p><b>Expected Student Performance Met:</b><br/>Yes</p> <p><b>Related Documents:</b><br/><a href="#">AM-227 skills assessment spring 2015.pdf</a></p> | <p>06/04/2015 - Actual results:<br/>6 out of 11 students are proficient; 5 are competent and 1 is highly competent. Therefore, 54.5% of the students assessed passed the skills assessment.</p> <p>Analyzed results:<br/>Students need more hands-on practice on servicing suspension height control system.</p> <p>Recommendations:</p> <p>1.) Purchase video cam to record laboratory activities and to review students' performance and technique in servicing Suspension Height Control System.</p> <p>2.) Add repair manuals to allow the students to access the correct specification of Suspension Height Control System.</p> <p>3.) Produce more mock-ups for CLO #3.</p> <p>Action plan:</p> <p>1.) Purchase repair manuals (e-copy and in print) before December 2015.</p> <p>2.) Purchase video cam before December 2015.</p> <p>3.) Produce more Mock-ups for CLO #3 and</p> | <p>2014 - 2015 (Spring 2015)</p> |
|---|--|----------------------------------|

| Results  |  |           |                           |
|--|--|-----------|---------------------------|
| Summary of Data Collected  | Use of Results   | Follow-Up | Semester Assessed         |
|  | <p>must be ready on December 2015.</p> <p>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).</p> <p>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #3; students are encourage to come in the shop on their free time for knowledge and skills enhancement.</p> <p>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).</p> <p>3.) Set-up work stations for all the CLOs of AM-227</p> <p>4.) Set-up film viewing</p> <p>5.) Conduct in-house Skills Olympic</p> |           |                           |
| <p>Skill Sheet - 07/24/2014 - 100% of the students assessed performed at the proficiency level.</p> <p><b>Expected Student Performance Met:</b><br/>Yes</p> <p><b>Related Documents:</b><br/><a href="#">AM227 skills sp14.pdf</a></p> | 07/24/2014 - No action needed at this time.  |           | 2013 - 2014 (Spring 2014) |
| <p>Final Exam - 07/24/2014 - 67% of the students assessed performed at the proficiency level.</p> <p><b>Expected Student Performance Met:</b><br/>No</p> <p><b>Related Documents:</b><br/><a href="#">AM227 fe sp14.pdf</a></p>        | 07/24/2014 - More time needs to be spent on lecturing this content area.   |           | 2013 - 2014 (Spring 2014) |

#### CLO: AM 227 - Traction Control: CLO 4

Service Traction Sub-throttle Control System

**CLO Assessment Cycle:** 2014-2015 (Spring 2015)

**CLO Status:** Active

| Means of Assessment  |   |       |        |
|--|---|-------|--------|
| Means of Assessment  | Expected Student Performance  | Notes | Active |
| <p>Explain the operating principles of the traction control system (TCS)</p> <p><b>Signature assignment:</b><br/>Final Exam</p>  | 70% of the students assessed will perform at the proficiency level. |       | Yes    |
| <p>Measure sensor readings and compare with specifications; test TCS actuator; and remove and replace main components.</p> <p><b>Signature assignment:</b><br/>Skill Sheet</p> | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

## Results

| Summary of Data Collected  | Use of Results  | Follow-Up | Semester Assessed         |
|--|---|-----------|---------------------------|
| <p>Final Exam - 06/03/2015 - 18% of the students assessed performed at the proficiency level.</p> <p><b>Expected Student Performance Met:</b><br/>No</p> <p><b>Related Documents:</b><br/><a href="#">AM-227 final exam spring 2015.pdf</a></p>          | <p>06/04/2015 - Actual results:<br/>2 out of 11 students are proficient; 2 are competent and none is highly competent. Therefore, 18% of the students assessed passed the knowledge test.</p> <p>Analyzed results:<br/>Privation on comprehending the concepts and principles of operation are obvious on the test result.</p> <p>Recommendations:<br/>CLO #4 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that prevents the tire from spinning and losing traction on slippery surface and during hard acceleration.</p> <p>Action Plan:<br/>CLO #4 must be revised before September 2015 to Service Electronic Traction Control.<br/>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).<br/>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #4; students are encourage to come in the shop on their free time for knowledge and skills enhancement.<br/>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).<br/>3.) Set-up work stations for all the CLOs of AM-227<br/>4.) Set-up film viewing</p> |           | 2014 - 2015 (Spring 2015) |
| <p>Skill Sheet - 06/03/2015 - 54.5% Of the students assessed performed at the proficiency level</p> <p><b>Expected Student Performance Met:</b><br/>No</p> <p><b>Related Documents:</b><br/><a href="#">AM-227 skills assessment spring 2015.pdf</a></p> | <p>06/04/2015 - Actual results:<br/>6 out of 19 students are proficient; 4 are competent and 2 are highly competent. Therefore, 54.5% of the students assessed passed the skills assessment.</p> <p>Analyzed results:<br/>Privation on comprehending the concepts and principles of operation are obvious on the test result.</p> <p>Recommendations:<br/>CLO #4 must be changed into a comprehensive topic that will equip the students to service a system of Traction Control that prevents the tire from spinning and losing traction on slippery surface during hard acceleration.</p>   |           | 2014 - 2015 (Spring 2015) |

| Results                   |  |           |                   |
|---------------------------|--|-----------|-------------------|
| Summary of Data Collected | Use of Results   | Follow-Up | Semester Assessed |
|                           | Action Plan:<br>CLO #4 must be revised before September 2015 to Service Electronic Traction Control.<br>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).<br>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #4; students are encourage to come in the shop on their free time for knowledge and skills enhancement.<br>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).<br>3.) Set-up work stations for all the CLOs of AM-227<br>4.) Set-up film viewing<br>5.) Conduct in-house Skills Olympic |           |                   |

|   |  |  |                           |
|---|--|--|---------------------------|
| Skill Sheet - 07/24/2014 - 100% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>Yes<br><b>Related Documents:</b><br><a href="#">AM227 skills sp14.pdf</a> | 07/24/2014 - No action needed at this time.                              |  | 2013 - 2014 (Spring 2014) |
| Final Exam - 07/24/2014 - 67% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>No<br><b>Related Documents:</b><br><a href="#">AM227 fe sp14.pdf</a>        | 07/24/2014 - More time needs to be spent on lecturing this content area. |  | 2013 - 2014 (Spring 2014) |

### CLO: AM 227 - Traction Control: CLO 5

Service Traction Control ECU

CLO Assessment Cycle: 2014-2015 (Spring 2015)

CLO Status: Active

| Means of Assessment   |   |       |        |
|---|---|-------|--------|
| Means of Assessment   | Expected Student Performance  | Notes | Active |
| Explain the operating principles of the TCS ECU and define its interactive relationship with its sensors and actuators.<br><b>Signature assignment:</b><br>Final Exam | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

### Means of Assessment

| Means of Assessment  | Expected Student Performance  | Notes | Active |
|--|---|-------|--------|
| Gather and interpret trouble codes in accordance to specifications; measure wiring resistance values; and remove and replace ECU.<br><b>Signature assignment:</b><br>Skill Sheet | 70% of the students assessed will perform at the proficiency level. |       | Yes    |

### Results

| Summary of Data Collected  | Use of Results  | Follow-Up | Semester Assessed         |
|--|---|-----------|---------------------------|
| Final Exam - 06/03/2015 - 54.5% Of the students assessed performed at the proficiency level<br><b>Expected Student Performance Met:</b><br>No<br><b>Related Documents:</b><br><a href="#">AM-227 final exam spring 2015.pdf</a>          | 06/04/2015 - Actual results:<br>6 out of 11 students are proficient; 6 are competent and none highly competent. Therefore, 54.5% of the students assessed passed the knowledge test.<br><br>Analyzed results:<br>Privation on comprehending the concepts and principles of operation are obvious on the test result.<br><br>Recommendations:<br>CLO #5 must be changed into a comprehensive topic that will equip the students to diagnose failure on Traction Control systems.<br><br>Action Plan:<br>CLO #5 must be revised before September 2015 to Diagnose Traction Control failure.<br>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).<br>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #5; students are encourage to come in the shop on their free time for knowledge and skills enhancement.<br>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).<br>3.) Set-up work stations for all the CLOs of AM-227<br>4.) Set-up film viewing<br>5.) Conduct in-house Skills Olympic |           | 2014 - 2015 (Spring 2015) |
| Skill Sheet - 06/03/2015 - 36.4% of the students assessed performed at the proficiency level.<br><b>Expected Student Performance Met:</b><br>No<br><b>Related Documents:</b><br><a href="#">AM-227 skills assessment spring 2015.pdf</a> | 06/04/2015 - Actual results:<br>4 out of 11 students are proficient; 3 are competent and 1 is highly competent. Therefore, 36.4% of the students assessed passed the skills assessment.<br><br>Analyzed results:<br>Privation on comprehending the concepts and principles of operation are obvious on the test result.   |           | 2014 - 2015 (Spring 2015) |

**Results**

| Summary of Data Collected  | Use of Results   | Follow-Up | Semester Assessed                |
|--|--|-----------|----------------------------------|
|  | <p>Recommendations:<br/>CLO #5 must be changed into a comprehensive topic that will equip the students to diagnose failure on Traction Control systems.</p> <p>Action Plan:<br/>CLO #5 must be revised before September 2015 to Diagnose Traction Control failure.<br/>Extended services offered; to produce more highly competent students in knowledge and skills for the next semester (spring 2016).<br/>1.) Tutorial services (assistant instructor will give additional lecture and hands-on practice on CLO #5; students are encourage to come in the shop on their free time for knowledge and skills enhancement.<br/>2.) Auto club will offer car servicing (the students approved by Federal Work study will be employed in Auto Club).<br/>3.) Set-up work stations for all the CLOs of AM-227<br/>4.) Set-up film viewing<br/>5.) Conduct in-house Skills Olympic</p> |           |                                  |
| <p>Final Exam - 07/24/2014 - 33% of the students assessed performed at the proficiency level.<br/><b>Expected Student Performance Met:</b><br/>No<br/><b>Related Documents:</b><br/><a href="#">AM227 fe sp14.pdf</a></p>        | <p>07/24/2014 - More time needs to be spent on lecturing in this content area.</p>   |           | <p>2013 - 2014 (Spring 2014)</p> |
| <p>Skill Sheet - 07/24/2014 - 100% of the students assessed performed at the proficiency level.<br/><b>Expected Student Performance Met:</b><br/>Yes<br/><b>Related Documents:</b><br/><a href="#">AM227 skills sp14.pdf</a></p> | <p>07/24/2014 - No action needed at this time.</p>   |           | <p>2013 - 2014 (Spring 2014)</p> |