A. **Mission Statement:**
It is the mission of the Medical Laboratory Technology Department to facilitate student learning and meet the needs of the healthcare community by providing a relevant and current curriculum based on sound educational principles in a format that is accessible and exhibits high standards of excellence. The Medical Laboratory Technology Department is committed to utilizing appropriate and effective instructional strategies and resources and continuously assessing student academic and clinical achievement for the purpose of ongoing improvement and future learning.

B. **Intended Outcomes:**
After successful completion of all MLT coursework the learner should be able to:
1. Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.
2. Demonstrate entry-level MLT skills in the following clinical laboratory areas: Clinical Chemistry, Hematology / Coagulation, Immunohematology, Microbiology and Urinalysis.

**Outcome Assessed This Year:**

1. **Outcome #1** – “Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.”

   MLT Comprehensive Exam scores will be assessed and compared to the content specific score on the American Society for Clinical Pathology (ASCP) national certification exam.

2. **Outcome #2** – Demonstrate entry-level MLT skills in Parasitology/Mycology.

C. **Benchmarks:**
1. **Outcome #1** - “Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.”
a. All MLT students (100%) must pass the MLT Comprehensive Exams with a score of 65% or higher.

b. All MLT students (100%) must pass the national certification exam, the ASCP, with an overall score of 400 points or higher.

*Additionally, students are evaluated as passing if each content specific score on the ASCP exam is equivalent to or higher than the national average score, which is 454 points.

2. **Outcome #2** - “Demonstrate entry-level MLT skills in Parasitology/Mycology.”

Entry-level MLT skills will be demonstrated when the student is able to:

a. Complete and document 100% of course specific practical skills (in the MLT 232 – Parasitology/Mycology course) with a minimum competency of 85%.

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D. **Assessment Results:**

**Outcome #1** - “Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.”

1. **Historical Context**

   MLT students have always taken and been assessed with the MLT Comprehensive Exams and the national certification exams. The assessment is conducted on a sampling of the 12 students that took both the MLT Comprehensive Exams and the ASCP National Certification Exams through the timeframe of this report. Previous section scores from the ASCP national exam have affected the MLT curriculum as well as teaching and learning strategies. For example, if the section score is consistently lower than the national average, teaching of this subject was enhanced and improved.

2. **Current Year Data Results**

   The following three charts show the students’ scores on the respective MLT Comprehensive Exams.

   Chart #1: Green = Chemistry Comprehensive Exam
   Chart #2: Purple = Hematology Comprehensive Exam
   Chart #3: Blue = Microbiology Comprehensive Exam
The table and chart below, ("MLT Student vs. ASCP National Exam Scores") demonstrates overall scores on the American Society for Clinical Pathology (ASCP) certification exam. To become certified by the ASCP, students must pass this exam with a score of 400 points. There is a 100% pass rate for Arapahoe Community College MLT students taking the ASCP Certification Exam.

<table>
<thead>
<tr>
<th>Student</th>
<th>Student Exam Score</th>
<th>ASCP National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>645</td>
<td>467</td>
</tr>
<tr>
<td>2</td>
<td>494</td>
<td>452</td>
</tr>
<tr>
<td>3</td>
<td>474</td>
<td>452</td>
</tr>
<tr>
<td>4</td>
<td>719</td>
<td>452</td>
</tr>
<tr>
<td>5</td>
<td>456</td>
<td>452</td>
</tr>
<tr>
<td>6</td>
<td>400</td>
<td>452</td>
</tr>
<tr>
<td>7</td>
<td>506</td>
<td>487</td>
</tr>
<tr>
<td>8</td>
<td>703</td>
<td>487</td>
</tr>
<tr>
<td>9</td>
<td>423</td>
<td>495</td>
</tr>
<tr>
<td>10</td>
<td>684</td>
<td>495</td>
</tr>
<tr>
<td>11</td>
<td>439</td>
<td>454</td>
</tr>
<tr>
<td>12</td>
<td>683</td>
<td>454</td>
</tr>
</tbody>
</table>
Additionally, the following table and chart (MLT Student Section Scores vs. ASCP National Average) compares the average MLT student score in each individual section of the ASCP exam as compared to the National Average. The average MLT student score exceeds the national average on sections of the certification exam.

<table>
<thead>
<tr>
<th>Exam Section</th>
<th>Student Average Section Score</th>
<th>ASCP National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Bank</td>
<td>425</td>
<td>464</td>
</tr>
<tr>
<td>Chemistry</td>
<td>616</td>
<td>506</td>
</tr>
<tr>
<td>Hematology</td>
<td>593</td>
<td>503</td>
</tr>
<tr>
<td>Immunology</td>
<td>510</td>
<td>441</td>
</tr>
<tr>
<td>Microbiology</td>
<td>587</td>
<td>476</td>
</tr>
<tr>
<td>Urinalysis/Body Fluids</td>
<td>532</td>
<td>475</td>
</tr>
<tr>
<td>Laboratory Operations</td>
<td>411</td>
<td>473</td>
</tr>
</tbody>
</table>
3. Analysis

**Charts #1 - #3 – MLT Comprehensive Exam Scores**
All MLT students successfully met the benchmark of passing the respective MLT Comprehensive exams with an acceptable score of 65% or greater.

**Chart #4 – MLT Student vs. ASCP National Exam Scores**
From the 12 MLT students who took the ASCP exam in this timeframe, all students passed the ASCP National Certification exam with a score of 400 or higher.

**Chart #5 – MLT Student Section Scores vs. ASCP National Average**
The ASCP National Certification Exam scores are also provided by each individual discipline or section. The MLT student scores for each section were averaged and compared with the national average score in the corresponding section. The ACC MLT students maintained an average score that exceeded the national average in each discipline except Blood Bank and Laboratory Operations. Although the average for each area was above the score of 400, the ACC MLT program strives to be above the national average. This shows a need for more time and teaching spent in these areas.

**Outcome #2 – “Demonstrate entry-level MLT skills in Parasitology/Mycology.”**

1. Historical Context

During the past year, competencies were implemented in MLT 232 – Parasitology/Mycology. The only specific outcome that has been assessed is Outcome #2 – “*Entry-level MLT skills will be demonstrated when the student is able to complete and document 100% of course specific practical skills in the Parasitology/Mycology class with a minimum competency of 85%*.”

Students’ “success rate” in completing the course competencies was assessed. The analysis of the fall 2006 competency data is shown in the chart below.
2. Current Year Data Results

Considering this data from the fall of 2006, all students were able to complete the desired competencies with an 85% or higher.

3. Analysis
Since students were not below the minimum competency level of 85%, students will be given the same amount of time to complete these competencies. However the amount of competencies will be increased. For example, the student was required to perform 10 parasite identifications in the fall of 2006. In the fall of 2007, the competency has been increased to 20 parasite identifications.

Use of Results:

**Outcome #1** - “Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.”
Although the current year results are strong and demonstrate significant comprehension and competence of the MLT students the content areas of Blood Bank and Laboratory Operations will be strengthened.

**Outcome #2 - “Demonstrate entry-level MLT skills in Parasitology/Mycology.”**

Even more practice opportunities will be given to the MLT students with the hopes of maintaining all Parasitology/Mycology competencies at a benchmark of 85%.

This report and summary will also be shared with MLT faculty and the MLT Advisory Committee.
MLT ASSESSMENT PLAN for 2007 – 2008

I. Outcomes to be assessed this year

1. Outcome #1 – “Exhibit theoretical comprehension and competence in all MLT courses by passing the comprehensive exams administered at ACC as well as the national certification exams.” This will be assessed using the MLT Program Comprehensive Exams and the National Certification Exam scores.

2. Outcome #2 – “Demonstrate entry-level MLT skills in the following clinical laboratory areas: Clinical Chemistry, Hematology / Coagulation, Immunohematology, Microbiology and Urinalysis.” This will continue to be assessed through the evaluation of MLT 142 – Urinalysis.

3. Outcome #3 – “Incorporate a general education outcome by having MLT students illustrate English composition skills by successfully writing a term paper on a hematology or coagulation condition”. This will be accessed using a term paper rubric which outlines the criteria for the paper.

II. Assessment Method

1. Outcome #1 will be assessed by evaluating the students’ scores on both the corresponding MLT Comprehensive Exams and National Certification Exam sectional scores.

2. Outcome #2 will be assessed utilizing the MLT students’ final competency completion scores in MLT 142 - Urinalysis.

3. Outcome #3 will be accessed using the term paper rubric which outlines the criteria for the paper.

III. Benchmark for Outcomes

• To assess outcome #1, 100% of the students will be required to
  o Pass the MLT Comprehensive Exams with a minimum score of 65%.
  o Pass the National Certification Exams with a minimum score of 400 points or 70%.

• To assess outcome #2, 100% of the students will be required to
  o Complete and document 100% of course specific practical skills with a minimum competency of 85%.
• *To assess outcome #3, 100% of the students will be required to*
  o Research and successfully write a term paper on a
    hematology or coagulation condition with a minimum score of
    85%.

**IV. Budget requirements**

The stated outcomes to be assessed in the MLT program do not require any additional budget allocations beyond the projected program operating funds.