Program Name: Chemistry

Program Outcomes Assessment Report
Nov-12

1. Convert between units in a system (SI and American)
2. Use analytical reasoning for determining properties of materials
3. Use problem solving techniques in given situations
4. Apply the scientific method to real world problems
5. Identify chemical functionality of molecules in reactions
6. Identify biological activity in molecules

Program Outcome #1: Convert between units in a system (SI and American)

<table>
<thead>
<tr>
<th>Program Outcome #1</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE OTCM</th>
<th># STDNTS ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>9</td>
<td>51</td>
<td>72</td>
<td>79</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>10</td>
<td>51</td>
<td>72</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>3</td>
<td>40</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>1</td>
<td>13</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>2</td>
<td>13</td>
<td>70</td>
<td>78</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>3</td>
<td>6</td>
<td>73</td>
<td>88</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>1</td>
<td>11</td>
<td>70</td>
<td>88</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA205</td>
<td>Elements of Statistics</td>
<td>1</td>
<td>40</td>
<td>70</td>
<td>86</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH208</td>
<td>University Physics I</td>
<td>1</td>
<td>8</td>
<td>70</td>
<td>90</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH228</td>
<td>University Physics II</td>
<td>1</td>
<td>15</td>
<td>70</td>
<td>88</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>Totals</td>
<td>10</td>
<td>248</td>
<td>82.3</td>
<td>10</td>
<td>0</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Student Learning: Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

Yes. 100% of all of the outcomes were achieved.
2. How does the data support your analysis of student learning?

The average score for all of the assessments was 82%.

3. What program changes are being made to enhance student learning?

We’re going to hire a new chemistry and physics instructors.

<table>
<thead>
<tr>
<th>Program Outcome #2</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE OTCM</th>
<th>STDNTS ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH177</td>
<td>Chemistry I</td>
<td>7</td>
<td>46</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH178</td>
<td>Chemistry II</td>
<td>2</td>
<td>20</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>3</td>
<td>13</td>
<td>70</td>
<td>75</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>4</td>
<td>13</td>
<td>70</td>
<td>80</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>9</td>
<td>13</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>1</td>
<td>19</td>
<td>70</td>
<td>82</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>2</td>
<td>19</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>2</td>
<td>11</td>
<td>70</td>
<td>92</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>MA230</td>
<td>Analytical Geometry and Calculus II</td>
<td>5</td>
<td>11</td>
<td>70</td>
<td>84</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>MA205</td>
<td>Elements of Statistics</td>
<td>4</td>
<td>40</td>
<td>70</td>
<td>75</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>PH208</td>
<td>University Physics I</td>
<td>1</td>
<td>8</td>
<td>70</td>
<td>90</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>PH208</td>
<td>University Physics I</td>
<td>3</td>
<td>8</td>
<td>70</td>
<td>99</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>PH228</td>
<td>University Physics II</td>
<td>1</td>
<td>15</td>
<td>70</td>
<td>88</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>PH228</td>
<td>University Physics II</td>
<td>3</td>
<td>15</td>
<td>70</td>
<td>91</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td>BI177</td>
<td>Principles of Biology</td>
<td>1</td>
<td>84</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td></td>
<td></td>
<td>Totals</td>
<td>15</td>
<td>335</td>
<td>82.2667</td>
<td>15</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

**Analysis of Student Learning:** Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

   Yes. 100% of all of the outcomes were achieved.

2. How does the data support your analysis of student learning?
The average score for all of the assessments was 82%.

3. What program changes are being made to enhance student learning?

We’re going to hire a new chemistry and physics instructors.

Program Outcome #3  Use problem solving techniques in given situations

<table>
<thead>
<tr>
<th>Program Outcome #3</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE OTCM</th>
<th># STDNTS ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>8 46 70 72 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>9 51 72 79 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>10 51 72 76 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>3 40 70 74 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>10 13 70 77 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>4 19 70 85 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>1 11 70 88 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>2 11 70 92 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>3 11 70 82 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>4 11 70 78 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>5 11 70 85 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>6 11 70 80 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA220</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA220</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA220</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA220</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA205</td>
<td>Elements of Statistics</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA205</td>
<td>Elements of Statistics</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH208</td>
<td>University Physics I</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH208</td>
<td>University Physics I</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH228</td>
<td>University Physics II</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH228</td>
<td>University Physics II</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>Totals</td>
<td>22 456 83 22 0 100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Analysis of Student Learning:** Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

   Yes. 100% of all of the outcomes were achieved.

2. How does the data support your analysis of student learning?

   The average score for all of the assessments was 83%.

3. What program changes are being made to enhance student learning?

   We're going to hire a new chemistry and physics instructors.

**Program Outcome #4**  
Apply the scientific method to real world problems

<table>
<thead>
<tr>
<th>Program Outcome #4</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE</th>
<th># STDNTS ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>3</td>
<td>46</td>
<td>70</td>
<td>68</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>6</td>
<td>46</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>7</td>
<td>46</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>5</td>
<td>20</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>9</td>
<td>20</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>4</td>
<td>13</td>
<td>70</td>
<td>80</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>6</td>
<td>13</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>8</td>
<td>13</td>
<td>70</td>
<td>73</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>4</td>
<td>19</td>
<td>70</td>
<td>85</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>1</td>
<td>11</td>
<td>70</td>
<td>88</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>3</td>
<td>11</td>
<td>70</td>
<td>82</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA190</td>
<td>Pre-Calculus</td>
<td>6</td>
<td>11</td>
<td>70</td>
<td>80</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA220</td>
<td>Analytical Geometry &amp; Calculus I</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA230</td>
<td>Analytical Geometry &amp; Calculus II</td>
<td>5</td>
<td>11</td>
<td>70</td>
<td>84</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>MA205</td>
<td>Elements of Statistics</td>
<td>4</td>
<td>40</td>
<td>70</td>
<td>75</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH208</td>
<td>University Physics I</td>
<td>3</td>
<td>8</td>
<td>70</td>
<td>99</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH228</td>
<td>University Physics II</td>
<td>3</td>
<td>15</td>
<td>70</td>
<td>91</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>BI285</td>
<td>Zoology</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Analysis of Student Learning:

Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

   Yes. 94% of all of the outcomes were achieved.

2. How does the data support your analysis of student learning?

   The average score for all of the assessments was 80%.

3. What program changes are being made to enhance student learning?

   We're going to hire a new chemistry and physics instructors.

### Program Outcome #5

**Identify chemical functionality of molecules in reactions**

<table>
<thead>
<tr>
<th>Program Outcome #5</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE OTCM</th>
<th># STDNTS ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>4</td>
<td>46</td>
<td>70</td>
<td>68</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>6</td>
<td>46</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td>11</td>
<td>46</td>
<td>70</td>
<td>73</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>4</td>
<td>20</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td>12</td>
<td>20</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>9</td>
<td>13</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td>10</td>
<td>13</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td>5</td>
<td>19</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>PH228</td>
<td>University Physics II</td>
<td>3</td>
<td>15</td>
<td>70</td>
<td>91</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11 - 12</td>
<td>BI177</td>
<td>Principles of Biology</td>
<td>1</td>
<td>84</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

| 11 - 12 | Totals | 10 | 322 | 76.1 | 9 | 1 | 90% |

### Analysis of Student Learning:

Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

   Yes. 90% of all of the outcomes were achieved.
2. How does the data support your analysis of student learning?

The average score for all of the assessments was 76%.

3. What program changes are being made to enhance student learning?

We're going to hire a new chemistry and physics instructors.

Program Outcome #6  Identify biological activity in molecules

<table>
<thead>
<tr>
<th>Program Outcome #6</th>
<th>Year</th>
<th>Course</th>
<th>Course Title</th>
<th>CRSE</th>
<th>OTCM</th>
<th># STDNTS</th>
<th>ASSESSED</th>
<th>Target Score</th>
<th>Average Score</th>
<th>CO Goal Met</th>
<th>CO Goal Unmet</th>
<th>PO Goal Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 12</td>
<td>CH177</td>
<td>Chemistry I</td>
<td></td>
<td>6</td>
<td>46</td>
<td>70</td>
<td>76</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH178</td>
<td>Chemistry II</td>
<td></td>
<td>10</td>
<td>20</td>
<td>70</td>
<td>75</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH225</td>
<td>Organic Chemistry I</td>
<td></td>
<td>10</td>
<td>13</td>
<td>70</td>
<td>77</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH235</td>
<td>Organic Chemistry II</td>
<td></td>
<td>6</td>
<td>19</td>
<td>70</td>
<td>80</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>CH325</td>
<td>Organic Chemistry II</td>
<td></td>
<td>7</td>
<td>19</td>
<td>70</td>
<td>81</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>BI177</td>
<td>Principles of Biology</td>
<td></td>
<td>1</td>
<td>84</td>
<td>70</td>
<td>74</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>BI177</td>
<td>Principles of Biology</td>
<td></td>
<td>3</td>
<td>84</td>
<td>70</td>
<td>72</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>Totals</td>
<td></td>
<td></td>
<td>8</td>
<td>304</td>
<td>76.625</td>
<td>8</td>
<td>0</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Student Learning: Analyze student learning by answering the following questions. Please be elaborative and explain your answers. Avoid one-word answers.

1. Are the students learning the outcome, i.e. are they meeting the educational goal? Explain.

   Yes. 100% of all of the outcomes were achieved.

2. How does the data support your analysis of student learning?

   The average score for all of the assessments was 76%.

3. What program changes are being made to enhance student learning?

   We're going to hire a new chemistry and physics instructors.