

PROGRAM SLO ASSESSMENT REPORT, SCC

Department: Mathematics Course: Math 180—Calculus I
 Year: 2008 Semester: Fall

1) Outcome to be assessed	2) Means of assessment and criteria of success	3) Summary of data collected	4) Analysis of data	5) Plan of action what to do next																		
Evaluate limits, derivatives, definite integrals and indefinite integrals graphically and algebraically	<p>The following questions were on the final exam and were graded by the rubric below.</p> <p>Question # 4: Find and simplify $\frac{dy}{dx}$ if $y = \frac{3x^2 + 5}{x^2 - 4}$</p> <p>Question # 5: Find and simplify the second derivative of $f(x) = (x^2 - 3)^8$</p> <p>Question # 11: Find and simplify: $\int \frac{x^3}{5} - \frac{2}{x^6} + \frac{1}{x} + \sqrt[5]{5} + e^{4x} - 7 dx$</p> <p>Question # 12: Give the exact value of $\int_0^2 5x\sqrt{3x^2 + 4} dx$</p> <p>Question # 15: Find the area under the curve $y = 3x^2$ between $x = 1$ and $x = a, a > 1$.</p> <p>Free Response Rubric 5 pts – clear, complete solution 4 pts – small mistakes not related to the concept, concept is understood 3 pts – mistakes, concept is partially understood (75% understood) 2 pts – relevant work (50% understood) 1 pt - some relevant work, concept not understood 0 pt – blank, no relevant work</p> <p>*Successful will be counted as a 4 or 5</p>	<table border="0"> <tr> <td>Problem#</td> <td>4</td> <td>5</td> <td>11</td> <td>12</td> <td>15</td> </tr> <tr> <td>Ave. score</td> <td>4.3</td> <td>3.6</td> <td>3.6</td> <td>2.7</td> <td>2.7</td> </tr> <tr> <td>% success</td> <td>83.3</td> <td>52.4</td> <td>59.5</td> <td>52.4</td> <td>42.9</td> </tr> </table>	Problem#	4	5	11	12	15	Ave. score	4.3	3.6	3.6	2.7	2.7	% success	83.3	52.4	59.5	52.4	42.9	<p>There is a problem with integration by substitution. It is clear by examination that students either understood the concept completely or almost completely or not at all. I also noticed that students could not identify when to use the product rule in Question # 5.</p>	<p>No curriculum or text changes. A reordering of topics should be implemented to allow more emphasis on integration by substitution at the end of the course. We also need to emphasize more rigorous examples for differentiation.</p> <p>We should start tracking students throughout the entire Calculus sequence and see the correlation of their grade on the Calculus I final to the success in Calculus II.</p>
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