

Santiago Canyon College

Mathematics Department

**Math 287, Introduction to Differential
Equations and Linear Algebra**

Fall 2011

Student Learning Outcome Assessment

Math 287

1. State and apply basic definitions, properties and theorems of linear algebra and differential equations.
2. Use matrices to solve systems of linear equations and analyze linear transformations and vector spaces.
3. Correctly choose and apply techniques to solve various types of differential equations.
4. Model and solve applications involving differential equations and linear algebra.

COURSE SLO ASSESSMENT REPORT, SCC

Department: Mathematics Course: Math 287 Introduction to Differential Equations and Linear Algebra

Year: 2011 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																		
Use matrices to solve systems of linear equations and analyze linear transformations and vector spaces.	1) Score #5 on each final exam using the attached 5-point rubric. 3) Success = 3, 4, or 5	A total of 26 exams were scored. <table border="1" data-bbox="814 727 1178 1138"> <thead> <tr> <th>Score</th> <th>#</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0.0%</td> </tr> <tr> <td>2</td> <td>4</td> <td>15.4%</td> </tr> <tr> <td>3</td> <td>3</td> <td>11.5%</td> </tr> <tr> <td>4</td> <td>4</td> <td>15.4%</td> </tr> <tr> <td>5</td> <td>15</td> <td>57.7%</td> </tr> </tbody> </table>	Score	#	%	1	0	0.0%	2	4	15.4%	3	3	11.5%	4	4	15.4%	5	15	57.7%	84.6% of the students scored 3, 4, or 5 on this question about finding a basis for and dimension of the nullspace of a matrix. Most of the papers scored 2 demonstrated a serious error in the computation of the reduced row-echelon form.	1) Inform department of results
Score	#	%																				
1	0	0.0%																				
2	4	15.4%																				
3	3	11.5%																				
4	4	15.4%																				
5	15	57.7%																				

MATH 140 COLLEGE ALGEBRA, FALL 2011, SLO ASSESSMENT

FIVE-POINT RUBRIC

http://www.mvhs.fuhsd.org/i-heng_mccomb/par/writing/general/hhsdept/am.htm

5 EXEMPLARY; COMPLETE UNDERSTANDING

- Work at a very high level of proficiency.
- Clear, insightful, thorough, discerning and demonstrates an in-depth understanding.
- Polished, refined and consistently well-crafted.
- Contains no significant factual errors.

4 THOUGHTFUL; CLEAR UNDERSTANDING

- Work at an above average competency level.
- Work shows thoughtful grasp of the content studied.
- Contains illustrative material that is supportive.
- Contains no significant factual errors.

3 DEVELOPING; LITERAL

- Work at an average competency level.
- Demonstrates a grasp of the whole, but is simplistic or literal.
- Some effort evident, yet it does not meet all specifications of the challenge.
- Contains some factual errors that represent a flawed understanding of the topic

2 LIMITED; BARELY ACCEPTABLE

- Work barely meets the basic requirements of the challenge.
- Work shows minimal understanding of the content's key ideas.
- Limited and is carried out with little commitment to precision and excellence.
- Contains significant factual errors.

1 MINIMAL; UNACCEPTABLE

- Work at a very low competency level.
- Little or no understanding of the challenge or the task.
- Disjointed and unorganized.
- Contains many significant factual errors.

Assessment Cycle – Math 287, Introduction to Differential Equations and Linear Algebra

All SLOs should be assessed at least once within a three-year cycle. A complete assessment cycle includes: gathering assessment data, analyzing assessment data, sharing results within the department or discipline, and reporting results. In the matrix below, indicate the term in which each of your course SLOs will be assessed (inclusive of the entire assessment cycle).

SLO	Data Gathered	Data Analyzed	Data Shared Improvement Dialogue	Results Reported	Changes Implemented
SLO 1 State and apply basic definitions, properties and theorems of linear algebra and differential equations.	Spring 2012	Fall 2012	Fall 2012	Fall 2012	Spring 2013
SLO 2 Use matrices to solve systems of linear equations and analyze linear transformations and vector spaces.	Fall 2011	Spring 2012	Spring 2012	Spring 2012	Fall 2012
SLO 3 Correctly choose and apply techniques to solve various types of differential equations.	Fall 2012	Spring 2013	Spring 2013	Spring 2013	Fall 2013
SLO 2 Model and solve applications involving differential equations and linear algebra.	Spring 2013	Fall 2013	Fall 2013	Fall 2013	Spring 2014