CENTRAL NEW MEXICO COMMUNITY COLLEGE
ASSESSMENT REPORT
Due to SAAC by October 15

PART 1: CONTACT & PROGRAM IDENTIFICATION

Report Year and Contact Information:			
2015-2016	David Beach	dbeach@cnm.edu	X50225
Academic Year	**Contact Person**	**Email**	**Phone Number**

Subject of this Assessment Report:		
Program: Computer Information Systems: Cloud Technology Concentration ☐ Certificate ☐ AA ☐ AS ☒ AAS	**Gen Ed Area:** Applicable to: ☐ AA/AS ☐ AAS	**Discipline Area**:

PART 2: EVIDENCE OF OVERALL PROGRAM EFFECTIVENESS

Summary of Program Successes:

The Cloud Technology students were assessed on their completion of the Capstone project, which consisted of their ability to complete the hands-on skills-based labs and their knowledge of theoretical concepts assessed with a written practice industry certification exam. For the Fall 2015 – Spring 2016 terms, there were eleven (11) students who completed the Capstone project for the Cloud Technology concentration. Of those students, the average score on their Capstone projects was 100% in the completion of skills-based labs, and 92.1% on the written exam for an overall 96.8%. These scores suggest that the students demonstrate the knowledge to pass the targeted industry certification exam.

Description and Evaluation of Recent Changes Made in Support of Student Learning:

PART 3: REPORT ON RECENT ASSESSMENT OF STUDENT LEARNING

Student Learning Outcome(s) Assessed: *To add rows: right –click in cell below and select "Insert," "Insert Rows Above"*	**Classes/Cohorts Assessed:**
Demonstrate an understanding logical and physical components of a storage	CIS 1810 –FA2015, SP2016

infrastructure	
Define backup, recovery, disaster recovery, business continuity, and replication	CIS 1810 –FA2015, SP2016
Demonstrate an understanding of information security requirements and solutions, and identify parameters for managing and monitoring storage infrastructure in classic, virtualized, and cloud environments.	CIS 1810 –FA2015, SP2016
Install and configure a hypervisor operating system.	Capstone Project
Install and configure a centralized management server for managing the virtual infrastructure.	Capstone Project
Deploy, manage, and migrate virtual machines.	Capstone Project

Measurement Tool(s) Used: *To add rows: right –click in cell below and select "Insert," "Insert Rows Above"*	*Enter X's for type of tool*				**Initial Achievement Target or Expectation:**
	Internal	**External**	**Direct**	**Indirect**	
A comprehensive electronic pre-certification exam				x	Students are expected to achieve a passing score of 71.
Performance based projects (skills exams) used in classes CIS 1810, 2810, as well as the Capstone project.	x		x		The Cloud Technology exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair, and 1=poor. We believe a score of 3+ for 75% of our students is an attainable goal.

Assessment Findings:

Outcomes 1-6: A total of 5 students completed the Cloud Technology assessment activities in the Capstone course in Fall 2014 and Spring 2015. The results are as follows:

	COMP 1	**COMP 2**	**COMP 3**	**COMP 4**	**COMP 5**	**COMP 6**	**COMP 7**	**COMP 8**	**COMP 9**	**COMP 10**
SCORE	**Storage Components**	**Storage Definitions**	**Storage Security**	**Virtualization Hypervisor**	**Virtualization Management**	**Virtual Machines**	**Templates**	**Linked Clones**	**vApps**	**Active Directory**
4	11	11	11	8	9	10	NA	NA	NA	NA
3				3	2	1	NA	NA	NA	NA
2							NA	NA	NA	NA
1							NA	NA	NA	NA

Using the Achievement Target of 3+ criteria for 75% of our students, the raw data is:

	COMP 1	COMP 2	COMP 3	COMP 4	COMP 5	COMP 6	COMP 7	COMP 8	COMP 8	COMP 8
SCORE	**Storage Components**	**Storage Definitions**	**Storage Security**	**Virtualization Hypervisor**	**Virtualization Management**	**Virtual Machines**	**Templates**	**Linked Clones**	**vApps**	**Active Directory**
3+	11	11	11	11	11	11	NA	NA	NA	NA
<3							NA	NA	NA	NA
Meet Target3	YES	YES	YES	YES	YES	YES	NA	NA	NA	NA

Analysis and Interpretation of Assessment Findings:

There is a strong job market for this field for individual who can achieve the industry certification. We are currently using a practice test for the entry level industry certification in this concentration area and the students are doing well. However, it would benefit the students to achieve a higher level industry certification as it will improve chances for employment.

Action Plan in Support of Student Learning:

Evaluate an adjustment in curriculum for CIS2810 and CIS2820 to improve the development of skills and knowledge to achieve a higher level of industry certification. Improve the capstone project to better assess the skills and knowledge by including a more stringent skills exam and a high level of written exam. In doing so we would expect the scores to decline in the next evaluation cycle.

Recommendations, Proposals, and/or Funding Requests:

PART 4: EMBEDDED OUTCOMES

Critical Thinking and Life Skills/Teamwork Development within Programs:

a) Please describe how Critical Thinking assessment is embedded within your program assessment.

b) Please describe how Life Skills/Teamwork assessment is embedded within your program assessment.

a) Many of the lab activities are scenario based with the students required to plan, design and correctly implement a configuration to solve a problem.

b) Students will be required to work in teams to accomplish assigned tasks using a team based approach. They will also be required to articulate the teams approach in solving the assigned tasks in either oral or written presentations.

PART 5: ASSESSMENT CYCLE PLAN (Copy and paste from original plan if unchanged)

Cycle Years:	Plan Description:

Student Learning Outcomes:	When Measured:	Where Measured:	How Measured:
1. Demonstrate an understanding logical and physical components of a storage infrastructure	F2016, SP2017, F2017	CIS1810 LAB, Capstone Project	Successful Completion of Lab Activity
2. Define backup, recovery, disaster recovery, business continuity, and replication	F2016, SP2017, F2017	CIS1810 LAB, Capstone Project	Successful Completion of Lab Activity
3. Demonstrate an understanding of information security requirements and solutions, and identify parameters for managing and monitoring storage infrastructure in classic, virtualized, and cloud environments.	F2016, SP2017, F2017	CIS1810 LAB, Capstone Project	Successful Completion of Lab Activity and Average Score on related questions on Capstone project.
4. Install and configure a hypervisor operating system.	SP2017, F2017	CIS2810 Lab, Capstone Project	Successful Completion of Lab Activity and Average Score on related questions on Capstone project.
5. Install and configure a centralized management server for managing the virtual infrastructure.	SP2017, F2017	CIS2810 Lab, Capstone Project	Successful Completion of Lab Activity and Average Score on related questions on Capstone project.
6. Deploy, manage, and migrate virtual machines.	FA2016, SM2017	CIS2820 Lab, Capstone Project	Successful Completion of Lab Activity and Average Score on related questions on Capstone project.
7. Create a template in VMware vCenter ServerTM and deploy a virtual machine from the template	FA2016, SM2017	CIS2820 Lab, Capstone Project	Successful Completion of Lab Activity and Average Score on related questions on Capstone project.

8. Deploy, manage, linked-clone virtual desktops	Remove	NA	NA
9. Package and deploy applications to virtual desktops	Remove	NA	NA
10. Configure Active Directory services	Remove	NA	NA