

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

PART 1: CONTACT & PROGRAM IDENTIFICATION

Report Year and Contact Information:			
Fall 2014 – Summer 2015	Ivonne Nelson	Inelson1@cnm.edu	224-4000 # 50270
Academic Year	Contact Person	Email	Phone Number

Subject of this Assessment Report:		
Program: <u>Computer Information Systems</u> <input type="checkbox"/> Certificate <input type="checkbox"/> AA <input type="checkbox"/> AS <input checked="" type="checkbox"/> AAS	Gen Ed Area: _____ Applicable to: <input type="checkbox"/> AA/AS <input checked="" type="checkbox"/> AAS	Discipline Area: <u>Computer Programming Concentration</u>

PART 2: EVIDENCE OF OVERALL PROGRAM EFFECTIVENESS

Summary of Program Successes:
Successfully attained SLO's 1-5

Description and Evaluation of Recent Changes Made in Support of Student Learning:
Two years ago, we added a language to the debugging quizzes (SLO 6). The score was 65%, lower than 75%, and we emphasized the skill in the three languages for a year. This year, the score was 63%, about the same. The added emphasis was not sufficient, but this was not a new cohort of students.

PART 3: REPORT ON RECENT ASSESSMENT OF STUDENT LEARNING

Student Learning Outcome(s) Assessed:	Classes/Cohorts Assessed:
<i>To add rows: right-click in cell below and select "Insert," "Insert Rows Above"</i> 1. Class construction: Write programs that contain a programmer-written class and demonstrate its use in the C++, Java and C# languages.	Outcomes 1-6 CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.

2. Class inheritance, and polymorphism: Write a program that contains a programmer-written class structure including a parent class and at least two children classes. The program must demonstrate polymorphism.	
3. Graphical User Interface and Technical documentation: Write a program that contains a Graphical User Interface that includes event handling components. These components must include components such as menus, dialog boxes, sliders, buttons, and spinners. Tooltips must be on all components, where relevant. The program must contain a help section or additional documentation for the user.	
4. Database manipulation and Web Application: Write a program that demonstrates the ability to connect to and manipulate a SQL database.	
5. Web research: Use a search engine, such as "Google", to find information on classes or functions that are needed in a program. This web research includes finding the appropriate class/function, its documentation, and implementing the code in a program.	
6. Debugging: Demonstrate the use of a debugging tool in at least two Integrated Development Environments, with at least two languages.	
7. Linux: Students will demonstrate how to install, configure, create user accounts, issue correct commands and options, and perform standard network administration.	Outcome 7: All CIS concentrations which require Linux in their program, will report Linux assessment results. This assessment information reflects all CIS students who take the Linux course.

Measurement Tool(s) Used:	Enter X's for type of tool				Initial Achievement Target or Expectation:
	Internal	External	Direct	Indirect	
<i>To add rows: right-click in cell below and select "Insert," "Insert Rows Above"</i>					
Outcomes 1-5 were assessed via a portfolio of work created by the students. The students were given a detailed document describing the required computer programming topics. The document /portfolio topics were described and requested in order of the competencies. Students created a portfolio and each section addressed	X		X		Outcomes 1-6: The Computer Programming 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 represents success in accomplishing our goals.

and demonstrated programming concepts.					
Outcome 6 was assessed via a debugging exam given to students. The students were given a C++ and choice between Java and C# programs in which to debug.	X		X		
Outcome 7 was assessed via the CIS 1680 Linux Essentials course. All students taking this course will be assigned a final project that encapsulates the exit competencies for this course.	X		X		Outcome 7: Several CIS concentrations incorporate the Linux course in its area of studies. Our achievement target for all Linux students (for all concentrations requiring this course) is 80%+ on the assessment skills exam for 75% of our students.

Assessment Findings:						
	COMP 1	COMP 2	COMP 3	COMP 4	COMP 5	COMP 6
SCORE	CLASSES	INHERITANCE	GUI	DB MANIP	RESEARCH	DEBUG
4	6	6	7	13	15	1
3.5 – 3.9	9	10	5	2	3	6
3	3	3	5	3		5
2.5			1			1
2	1			1		4
1.5						2
1			1			
0					1	

Analysis and Interpretation of Assessment Findings:

	COMP 1	COMP 2	COMP 3	COMP 4	COMP 5	COMP 6
SCORE	CLASSES	INHERITANCE	GUI	DB MANIP	RESEARCH	DEBUG
3+	18	19	17	18	18	12
<3	1	0	2	1	1	7
Meet Target?	yes	yes	yes	yes	yes	no

A total of 139 students took the Linux Skills Exam, this encompasses 9 sections, 3 sections of Fall 2014 and 6 sections of Spring 2015.

SUCCESS SCORE	RAW TOTAL (OUT OF 139)	%
EXCELLENT 90-100 4	63	45
Good 80-89 3	26	19
FAIR 70-79 2	13	9
POOR 69 OR LESS	37	27
TOTAL SCORES 3+	99	64

Meet target of 80%, score 3 or 4 for 75% of our students? No

Action Plan in Support of Student Learning:

We will continue to emphasize debugging skills in the three languages, and we will bring in debugging skills earlier and more frequently in C++ I, C++ II, Java I and C#. We will add debugging practice in Android and ASP.net.

Recommendations, Proposals, and/or Funding Requests:

PART 4: EMBEDDED OUTCOMES

<p>Critical Thinking and Life Skills/Teamwork Development within Programs:</p> <p>a) Please describe how Critical Thinking assessment is embedded within your program assessment.</p> <p>b) Please describe how Life Skills/Teamwork assessment is embedded within your program assessment.</p>
<p>a) All programming classes inherently emphasize critical thinking through the process of abstraction, which is analyzing the problem presented, and selecting the factors relevant to model and techniques best suited to solving the problem. The process of debugging errors in code, including compile-time errors, link errors and run-time errors, requires development of critical thinking skills. These skills are assessed in the Capstone course.</p>
<p>b) Life Skills/Teamwork is developed during team projects and during class time when students are encouraged to work together. The team projects are a part of the portfolio that is submitted through the Capstone course.</p>

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. Class construction: Write programs that contain a programmer-written class and demonstrate its use in the C++, Java and C# languages.	2014-2015	Program Portfolio Demonstrations	Class construction: Write programs that contain a programmer-written class and demonstrate its use in the C++, Java and C# languages.
2. Class inheritance, and polymorphism: Write a program that contains a programmer-written class structure including a parent class and at least two children classes. The program must demonstrate polymorphism.	2014-2015	Program Portfolio Demonstrations	Class inheritance, and polymorphism: Write a program that contains a programmer-written class structure including a parent class and at least two children classes. The program must demonstrate polymorphism.
3. Graphical User Interface and Technical documentation: Write a program that contains a Graphical User Interface that includes event handling components. These components must	2014-2015	Program Portfolio Demonstrations	Graphical User Interface and Technical documentation: Write a program that contains a Graphical User Interface that includes event handling components. These

include components such as menus, dialog boxes, sliders, buttons, and spinners. Tooltips must be on all components, where relevant. The program must contain a help section or additional documentation for the user.			components must include components such as menus, dialog boxes, sliders, buttons, and spinners. Tooltips must be on all components, where relevant. The program must contain a help section or additional documentation for the user.
4. Database manipulation and Web Application: Write a program that demonstrates the ability to connect to and manipulate a SQL database.	2014-2015	Program Portfolio Demonstrations	Database manipulation and Web Application: Write a program that demonstrates the ability to connect to and manipulate a SQL database.
5. Web research: Use a search engine, such as "Google", to find information on classes or functions that are needed in a program. This web research includes finding the appropriate class/function, its documentation, and implementing the code in a program.	2014-2015	Program Portfolio Demonstrations	Web research: Use a search engine, such as "Google", to find information on classes or functions that are needed in a program. This web research includes finding the appropriate class/function, its documentation, and implementing the code in a program.
6. Debugging: Demonstrate the use of a debugging tool in at least two Integrated Development Environments, with at least two languages.	2014-2015	Program Portfolio Demonstrations	Debugging: Demonstrate the use of a debugging tool in at least two Integrated Development Environments, with at least two languages.
7. Linux: Students will demonstrate how to install, configure, create user accounts, issue correct commands and options, and perform standard network administration.	2014-2015	Course-wide evaluation using a Linux Project measured using a common rubric.	Linux: Students will demonstrate how to install, configure, create user accounts, issue correct commands and options, and perform standard network administration.
8.			
9.			
10.			