CNM ANNUAL STUDENT LEARNING ASSESSMENT REPORT

Due to the Student Academic Assessment Committee by October 15

Central New Mexico Community College

PART 1: REPORT INFORMATION

Report Year and Contact Information			
2017-2018	Ivonne Nelson	Inelson1@cnm.edu	50270
Academic Year	**Contact Person**	**CNM Email**	**CNM Office Extension**

Subject of this Report
BIT--CPROG_CERT--CIS Computer Programming Certificate

PART 2: CONTEXT IN WHICH THE ASSESSMENT TOOK PLACE

Program/Area Highlights and Successes (Wherever applicable, include course completion rates, job placement outcomes, and licensing examination pass rates. See the program information dashboard at https://livecnm.sharepoint.com/sites/Dashboards/SitePages/Program%20Information%20Dashboard.aspx (access restricted to CNM employees) and other reports at https://www.cnm.edu/depts/opie.)

Our high standards have paid off. Many of our students who have graduated are now working at Rural Sourcing Incorporated, SolutionWerx and other companies in the local area. During this period we also have a student that is working side by side with graduate students at UNM developing Augmented Reality and Robotics applications for the Air Force Research Lab.

Changes Implemented During the Past Year in Support of Student Learning

Increased attention to debugging skills. We have brought in debugging skills earlier and more frequently in C++ I, C++ II, Java I and C#. We have added debugging practice in Android and ASP.net.

CIS Programming instructors continue to keep curriculum up-to-date with quickly changing technology. We now teach two GUI frameworks in Java and C# because of changes in the industry. In C# .NET Web Development, Microsoft implemented a major change in how web development is accomplished and Android introduced a new suite of libraries, tools and best practices, driving a major rewrite of both curricula. All of the languages taught evolve and new additions/changes are incorporated into the curriculum as they are incorporated into the IDE's that are used.

PART 3: REPORT ON ASSESSMENT OF STUDENT LEARNING

Assessment Method	**Type of Assessment Tool**	**Population or Course(s) Assessed**	**Graduate Learning Outcome(s) Assessed**	**Mastery Level** (E.g., "Minimum score of 3 on a rubric scaled 0-4" or "Minimum score of 75%")	**Targeted % Achieving Mastery**	**Outcome**
Program Portfolio Demonstration	Direct & Internal	All CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.	1. Class construction: Write programs that contain a programmer-written class and demonstrate its use in the C++, Java and C# languages.	The Computer Programming exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair and 1=poor.	69%	Target not met
Program Portfolio Demonstration	Direct & Internal	All 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.	The Computer Programming exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair and 1=poor.	85%	Target met

Program Portfolio Demonstration	Choose an item.	All CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.	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.	The Computer Programming exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair and 1=poor.	85%	Target met
Program Portfolio Demonstration	Choose an item.	All CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.	4. Database manipulation and Web Application: Write a program that demonstrates the ability to connect to and manipulate a SQL database	The Computer Programming exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair and 1=poor.	85%	Target met
Program Portfolio Demonstration	Choose an item.	All CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.	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.	The Computer Programming exit competencies are evaluated using a Rubrics with a scale of 4=excellent, 3=good, 2=fair and 1=poor.	69%	Target not met

Test given as a part of the Capstone Class	Direct & Internal	All CIS Computer Programming students were assessed in their final semester via the CIS 2999 Capstone course.	6. Debugging: Demonstrate the use of a debugging tool in at least two Integrated Development Environments, with at least two languages.	Click or tap here to enter text.	77%	Target met
Course-wide evaluation using a Linux Project measured using a common rubric.	Direct & Internal	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.	7. Linux: Students will demonstrate how to install, configure, create user accounts, issue correct commands and options, and perform standard network administration.	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.	Choose an item.	Choose an item.
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Click or tap here to enter text.	Choose an item.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Choose an item.

Click or tap here to enter text.	Choose an item.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Choose an item.

Summary of Assessment Findings

	COMP 1	COMP 2	COMP 3	COMP 4	COMP 5	COMP 6
SCORE	**CLASSES**	**INHERITANCE**	**GUI**	**DB MANIP**	**RESEARCH**	**DEBUG**
4	5	3	1	4	7	6
3.5 – 3.9	2	4	5	2		2
3	2	4	5	5	2	2
2.5	4	2	1		2	3
2			1	1	1	
1.5				1	1	
1						
0						

	COMP 1	COMP 2	COMP 3	COMP 4	COMP 5	COMP 6
SCORE	**CLASSES**	**INHERITANCE**	**GUI**	**DB MANIP**	**RESEARCH**	**DEBUG**
3+	9	11	11	11	9	10
<3	4	2	2	2	4	3

Meet Target?	no	yes	yes	yes	no	yes

Interpretation of Assessment Findings

These assessment finding are those for the AAS degree. Of the Certificate earners, In Fall 2018 and Spring 2019, 42% also earned the AAS and participated in the assessment. It is not possible for our program to know when students will graduate with a Certificate, and therefore we are unable to have them participate in assessment in the last semester of their enrollment. We are proposing to CCC this semester to change the Computer Programming Certificate requirements to include the Capstone course. This will enable us to include them in the assessment of our Program Learning Outcomes. At present, we can only infer that the Certificate earners are in the same group as the AAS earners.

Action Plan in Support of Student Learning (Describe changes to be made that are based at least in part on the assessment interpretation. If the assessment did not yield useful information, describe changes to be made in the assessment methodology and/or criteria.)

The Programming faculty will discuss these findings and brainstorm causes and possible mitigating factors. We will critically review our courses with attention on the two areas that scored low, Classes and Research. Since the sample is so small, we will take care not to over-react with curriculum changes that might be either unnecessary or damaging. However, if we can determine weaknesses, we will address those.

Please select all of the following that characterize the types of changes described in the above action plan:

- ☐ Assessment criteria revision
- ☐ Assessment methodology revision
- ☒ Assignment revision
- ☐ Budgetary reallocation
- ☒ Change in teaching approach
- ☒ Course content revision
- ☒ Curricular Revision
- ☐ Faculty training/development
- ☐ Process revision

Recommendations, Proposals, and/or Funding Requests	Budget Needed
Click or tap here to enter text.	Click or tap here to enter text.

PART 4: REMAINING YEARS IN CURRENT ASSESSMENT CYCLE PLAN (including any revisions) **– OR -- UPCOMING ASSESSMENT CYCLE PLAN** (if this was the final year)

Years of Full Cycle	Next Year's Assessment Focus (Describe how the next planned assessment is expected to provide information that can be used toward improving student learning.)
2016-2022	We are planning to change the requirements of the Certificate program to include the Capstone course, so that we can assess. Ther cycle will be the same, in that we assess all the Graduate Learning Outcomes every semester.

Graduate Learning Outcomes to Be Assessed	Years in which Assessment Is Planned	Population/Courses to Be Assessed	Planned Assessment Approach
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Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
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