Assurance of Student Learning Report 2023-2024	
College of Health and Human	Public Health
Services Health Informatics Certificate- 1740	
Jan Hunt-Shepherd	
***Is this an online program*?** ☒ Yes ☐ No	Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here ☒ Yes, they match! (If they don't match, explain on this page under **Assessment Cycle)**

*** Please include Curriculum Map as part of this document (at the end), NOT as a separate file.

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.		
Program Student Learning Outcome 1: Apply information technology to meet health care needs		
Instrument 1	**Direct: Development of pivot table in EHR Go Clinical Reminder Data Visualization V Assignment**	
Instrument 2	**Direct: Examination of data interoperability in Health Information Exchange Assignment**	
Instrument 3	**Direct: Demonstration of ability to navigate an electronic health record system in Introductory Evaluation Assignment**	
Based on your results, check whether the program met the goal Program Student Learning Outcome 1.	☒ Met	☐ Not Met
Program Student Learning Outcome 2: Explore database management and analytics to manage healthcare clinical pathways, clinical outcomes, quality initiatives, and departmental and administrative workflow		
Instrument 1	**Direct: Analysis of health data to identify trends in EHR Go Clinical Reminder Data Visualization V assignment**	
Instrument 2	**Direct: Recommendation of antibiotics based on analysis of clinical outcomes in EHR Go Orientation to Data Analytics I assignment**	
Instrument 3	**Direct: SAS Analysis of the relationship between high cholesterol and heart disease**	
Based on your results, check whether the program met the goal Program Student Learning Outcome 2.	☒ Met	☐ Not Met
Program Student Learning Outcome 3:		
Instrument 1		
Instrument 2		
Based on your results, check whether the program met the goal Program Student Learning Outcome 3.	☒ Met	☐ Not Met
Assessment Cycle Plan:		
Results from this assessment indicate that the mean scores for all SLOs have been met and the certificate program has reached and/or exceeded the self-reported assessment goals.		

The certificate made course changes through the Undergraduate Curriculum review process during the 2023-2024 cycle. The changes occurred due to the discontinuation of one course and changes made in the Business Data Analytics Program. HIM 230 was added as a replacement for the discontinued course. In addition, CIT courses are now restricted to CIT students, so the CIT course is no longer an option in the certificate. The Program Student Learning Outcomes, nor the Instrument Measures, are affected by the proposed changes.

On the last review, all learning outcomes and instrument measurements were met. HIM faculty recommended adding an Instrument Measurement to Student Learning Outcome 2 from HIM 430. This was completed. When assessing the results, the measure was met, but it was determined that an additional question needed to be added to the assignment to assess student learning. This information is included below in the Plans for the Next Cycle from the Instrument Measure.

During the 2024-2025 cycle, new Student Objectives will be added to Course Leaf based on competencies utilized for Health Informatics Bachelor's Degree programs recognized by the Commission on Accreditation of Health Informatics and Information Management Education. Note: the certificate is not accredited, nor are there any plans for accreditation.

Program Student Learning Outcome 1		
Program Student Learning Outcome	Apply information technology to meet health care needs- Students should be able to demonstrate ability to utilize information technology to make appropriate decisions in managing data related to health care needs	
Measurement Instrument 1	Direct measure of Program Student Learning Outcome: Students were required in the HIM 330 (Electronic Health Record Systems) course to generate a pivot table for "Colorectal Screen Status" in the EHR Go Clinical Reminder Data Visualization V assignment. This measure aligns with the learning outcome by requiring the student to show competency in creating a pivot table which shows the ability to apply information technology. No "rubric" exists. The student either creates a pivot table or does not.	
Criteria for Student Success	Students should at the end of the assignment correctly generate a pivot table of healthcare data. Student must provide a copy of the pivot table created. Student receives 100% credit for providing this correct pivot table.	

Program Success Target for this Measurement	80% of students can correctly create a pivot table receiving a score of 100%.	Percent of Program Achieving Target	89% (17/19) were able to correctly create a pivot table receiving a score of 100%.

Methods	Direct: (N=19) Assignments were collected from students. A portion of the EHR Go Clinical Reminder Data Visualization V Assignment required students to generate a specific pivot table of healthcare data. This assignment element was graded for each student. Grading was based on whether the students were successful with creating the pivot table. In this portion of the assignment, the students receive a score of 100% for correctly completing the pivot table. A score of 0 is assigned if the student cannot correctly create a pivot table. Results of the measure are accessed by the faculty/program director from Blackboard. 100% of the student submissions are reported.
Measurement Instrument 2	Direct measure of Program Student Learning Outcome: Students were required in the HIM 330 (Electronic Health Record Systems) course assignment "Health Information Exchange" to evaluate an electronic health record for the exchange of data between two organizations. This measure aligns with the learning outcome by requiring the student to show competency in evaluating the exchange of data which shows the ability to apply information technology. No rubric exists. Each question in the assignment is either correct or incorrect.
Criteria for Student Success	Students should at the end of the assignment receive a passing grade of 70% or higher for this assignment.

Program Success Target for this Measurement	80% of students completing assignment will receive a score of 70% or above.	Percent of Program Achieving Target	95% (20/21) students completing assignment received a score of 70% or above.
Methods	Direct measure of Program Student Learning Outcome: (N=21) Assignments were collected from all student submissions. The assignment was graded for all elements contained within the assignment. The assessment involves a review and audit of the health information exchange (HIE) that exists between two service locations in a continuity of care record. Results of the measure are accessed by the program director from Blackboard. 100% of the students are reported.		
Measurement Instrument 3	Direct measure of Program Student Learning Outcome: Students were required in HIM 330 (Electronic Health Record Systems) course assignment 3 "Introductory Evaluation" to demonstrate competency in utilizing an electronic health record system. This measure aligns with the learning outcome by requiring the student to show competency in utilizing an electronic health record system which shows the ability to apply information technology. No rubric exists. Each question in the assignment is either correct or incorrect.		
Criteria for Student Success	Students should at the end of the assignments receive a passing grade of 70% or higher for this assignment.		

Program Success Target for this Measurement	80% of students completing assignment will receive a score of 70% or above.	Percent of Program Achieving Target	100% (21/21) of students completing assignment received a score of 70% or above.
Methods	Direct measure of Program Student Learning Outcome: (N=21) Assignments were collected from student submissions. The assignment was graded for all elements contained within the assignment. This assessment requires students to demonstrate the necessary skills and understanding to access an EHR system and identify and interpret patient data. Results of measure are accessed by program director from Blackboard. 100% of the students are reported.		

Based on your results, highlight whether the program met the goal Program Student Learning Outcome 1.	☒ Met	☐ Not Met

Results, conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward)

<u>**Results:**</u> The program student learning outcome was met with all three Measurement Instruments also being met.

<u>**Conclusions:**</u> All instruments are appropriate for continued tracking. During the last assessment cycle, the plan for Measurement Instrument I was to modify questions to require Pivot Tables to be provided in Excel so that if errors occur, appropriate feedback can occur. This was completed, but a few students still provided Word Documents with results. This will be addressed. Last year Measurement Instrument 2 was just below target at 79.3%. This improved to 95% for this assessment year.

<u>**Plans for Next Assessment cycle:**</u>

Continue to monitor outcomes in 2024-2025 and evaluate if different measurement instruments or outcomes might be appropriate if program continues to meet all goals set. The instrument measurement data is reviewed in Blackboard by the HI Certificate Coordinator. This outcome will be reassessed at the end of the school year.

Program Student Learning Outcome 2	
Program Student Learning Outcome	**Explore database management and analytics to manage healthcare clinical pathways, clinical outcomes, quality initiatives, and departmental and administrative workflow.** Students should be able to achieve a level of competence in this element to be able to successfully work in a healthcare setting in analyzing healthcare data to promote clinical and administrative functions.
Measurement Instrument 1	Students were required in the EHR Go Clinical Reminder Data Visualization V assignment to analyze a report "Clinical Reminder Data" and a pivot table to determine how many patients were overdue for colorectal cancer screening. This measure aligns with the learning outcome by requiring the student to show competency in utilizing databases and analytics to support decision-making and healthcare

	functions. No "rubric" exists. The student either answers the question correctly or incorrectly.		
Criteria for Student Success	Students should at the end of the assignment be able to correctly determine how many patients were overdue for colorectal cancer screening. Students had to correctly identify the total number of patients overdue for a colorectal cancer screening. A grade of 100% should be achieved on the question.		
Program Success Target for this Measurement	80% students completing assignment will receive a score of 100% on the question	**Percent of Program Achieving Target**	**95% (20/21)** students completing assignment received a score of 100% on the question.
Methods	Direct: (N=21) Assignments were collected from students. The specific element from the EHR Go Clinical Reminder Data Visualization V Assignment for correctly identifying the total number of patients overdue for a colorectal cancer screening was graded for accuracy for each student. Results of the measure are accessed by the program director from Blackboard. 100% of the student submissions are reported.		
Measurement Instrument 2	Students were required in the EHR Go Orientation to Data Analytics I assignment to recommend antibiotics for urine-based E. Coli infection based on analysis of those most effective. This measure aligns with the learning outcome by requiring the student to show competency in utilizing analytics to make appropriate decisions to support the healthcare facility. The student either answers the question correctly or incorrectly.		
Criteria for Student Success	Students should at the end of the assignment be able to appropriately recommend antibiotics for urine-based E. Coli infection based on analysis of those most effective in certain situations. A grade of 100% should be achieved.		
Program Success Target for this Measurement	80% students completing assignment will receive a score of 100% on the question	**Percent of Program Achieving Target**	**100% (19/20)** students completing assignment received a score of 100% on the question.
Methods	Direct: (N=20) Assignments were collected from students. The specific element from the EHR Go Orientation to Data Analytics I Assignment for recommending appropriate antibiotics for urine-based E. Coli infection based on analysis of those most effective in certain situations was graded for appropriateness for each student. Results of measure are accessed by program director from Blackboard. 100% of the students are reported.		
Measurement Instrument 3	Students in HIM 430 were required to determine if a relationship exists between high cholesterol and heart disease through the completion of a SAS database analysis (Framingham Heart Study SAS Guided Analysis). The student either answers the question correctly or incorrectly.		
Criteria for Student Success	Students should at the end of the assignment be able to appropriately identify whether a relationship exists between high cholesterol and heart disease. A grade of 100% should be achieved.		
Program Success Target for this Measurement	80% students completing assignment will receive a score of 100% on the question	**Percent of Program Achieving Target**	**86% (6/7)** students completing assignment received a score of 100% on the question.
Methods	Direct: (N=7) Assignments were collected from students. At the end of the assignment, students should upload a screenshot of a bar graph that shows the percentage of heart disease compared to high cholesterol. Results of the measure are accessed by the program director from Blackboard. 100% of the student submissions are reported.		
Based on your results, circle or highlight whether the program met the goal Program Student Learning Outcome 2.		☒ **Met**	☐ **Not Met**
Results, conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward)			

Results: The program student learning outcome was met with both Measurement Instruments also being met.

Conclusions: Both Measurement Instruments 1 and 2 are appropriate to monitor for meeting the Program Student Learning Outcome. There have been no changes in teaching methods during 2023-2024. Measurement Instrument 3 was added based on the HIM faculty recommendation from ASL review from last year.

Plans for Next Assessment Cycle:
Upon review of Measurement Instrument 3, it was determined that while students can provide the screenshot of the results of heart disease and high cholesterol, the assignment needs to add a question of whether a relationship can be determined based on the data visualization. This will increase the assignment to a higher level by requiring critical thinking skills to determine the relationship between the two diagnoses based on results.

Continue to monitor outcomes in 2024-2025 and evaluate if different measurement instruments or outcomes might be appropriate if program continues to meet all goals set.
The instrument measurement data is reviewed in Blackboard by the HI Certificate Coordinator. This outcome will be reassessed at the end of the school year.

CURRICULUM MAP TEMPLATE

Program name:	Health Informatics Certificate
Department:	Public Health
College:	College of Health and Human Services
Contact person:	Jan Hunt-Shepherd
Email:	jan.hunt-shepherd@wku.edu

KEY:

I = Introduced

R = Reinforced/Develope

M = Mastered

A = Assessed

			Learning Outcomes					
			LO1:	LO2:	LO3:	LO4:	LO5	LO6
			Utilize an education electronic health record system	Apply information technology to meet health care needs	Improve health care delivery by understanding basic health information technology	Articulate health technology privacy and security issues, threats, and solutions	Demonstrate knowledge of functionality of health information technology	Explore database management and analytics in order to manage health care clinical pathways, clinical outcomes, quality initiatives, and departmental and administrative workflow
Course Subject	**Numb.**	**Course Title**						
HIM	230	Analytics and Technology		I/R/M/A	I/R/M/A	I/R	I/R/M/A	I/R
BDAN	250	Introduction to Analytics		I	I/R	I/R	I	I/R/M/A
BDAN	305	Principles of Mgmt with Spreadsheets		R	R			R
BDAN	330	Structured Data Analysis		R	R		R	R/M
HIM	330	Electronic Health Records	I/R/M/A	R/M/A	R/M/A	M/A	M/A	M/A
HIM	430	Health Data Management & Analysis		M/A	M/A		M/A	M/A

Supporting Body of Knowledge (Prerequisites or Evidence of Knowledge)

Introductory Health Professions Course: HIM 100, DH 100, CD 280, HCA 340, Other health care intro class as approved by HI Certificate Advisor

NOTE: All certificate objectives specifically reference health. While the computer courses are not specific to healthcare, they are essential for students learning computer technology in order to apply that knowledge once they take the HIM courses.