



WILLIAM WOODS
UNIVERSITY

Cyber Security Annual Assessment 2019-2020

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Annual Assessment 2019-2020

Cybersecurity

Program Profile

Program Mission Statement

Please insert your program mission statement here

William Woods University's business programs provide an exceptional learning environment that empowers students to succeed as they continue their education or pursue professional endeavors. The cybersecurity program is designed around identified core knowledge areas supporting information security. The program prepares students to enter the IT and cybersecurity workforce or continue their education in a professional graduate degree program.

Program Data

Delivery Method

Traditional On Campus
Online (selected)
Hybrid

	Majors	Minors	Concentrations
2018-19	5	N/A	N/A
2019-2020	10	N/A	N/A

Student Demographics

What are the program goals for student retention, persistence and degree completion? What do the persistence numbers mean to the faculty in the program? Are your persistence numbers what you expected? If not, how could the numbers be improved? What is the optimal enrollment for the program?

The program is in the second year of offering. As we enroll students and develop data points on initial retention, persistence and degree completion percentages, we will be better able to identify trends and establish expectations.

However, there is a serious need for focused marketing of this program. There is ample opportunity for growth but awareness of the program to potential students continues to be an issue.

Is the Program Externally Accredited

Yes
No (selected)

External Accreditation

Name the Accrediting Agency or entity including the last review/approval. Is there an accrediting body for the field of study? If yes, what is the name of the group. Is the program seeking accreditation? If no, why?

The program is designed to meet the NSA accreditation requirements and when the program is eligible, this distinction will be sought.

Marketing Materials

Please reflect on the current marketing materials used for the program. Detail what documents you are reviewing and attach a screenshot of any webpages or materials that you cannot include as a document. What changes, if any should be made to the material? Are there recommendations for how or where to market the program?

We have developed a fact sheet, webpages have been created and we provided information for the Marketing department to develop a flyer (draft attached).

The program needs an increase in awareness in the St. Louis and Kansas City areas which are hubs for cybersecurity in the region. Additionally, awareness to small businesses, local/county government agencies in the rural areas of the state of Missouri would be beneficial.

Video testimonies from current students and faculty would improve the webpage.

Marketing Material

Cyber_marketing_materials.docx

Cyber_Flyer.pdf

03110019_309_Cybersecurity_Program_Sheet_proof.pdf

Program Assessment

Standard/Outcome

Identifier	Description
WWU2016.1	Major Field Competence: Students will demonstrate excellence in an academic or professional discipline, and engage in the process of academic discovery.
WWU2016.2	Ethics: Students will exhibit values and behaviors that address self- respect and respect for others that will enable success and participation in the larger society.
WWU2016.3	Self-Liberation: Students will develop an honest understanding and appreciation of themselves and others resulting in an ability to make individual decisions.
WWU2016.4	Lifelong Education: Students will possess an intellectual curiosity and desire for continual learning both within and beyond formal education in preparation for participation in a global society.

Additional Standards/Outcomes

Identifier	Description
CSS.1	Discuss the impact of cybersecurity on society and organizations.
CSS.2	Develop presentations and documentation to communicate technical content.
CSS.3	Describe the process of designing a computer system.
CSS.4	Design and implement cybersecurity solutions based on a set of requirements.
CSS.5	Identify and compare computer networks and architectures.
CSS.6	Communicate computer security principles and their application.

Alignment to the University Objectives

Please discuss the program alignment to the University Objectives. We do not need an artifact for each objective, but a discussion on how the program uses the Institutional Objectives as an anchor for their program curriculum.

This program offers a technical education that is specific to the IT industry. Program objectives align with University objectives as follows.

CSS 1 to WWU 1, 2, 3 and 4.

CSS 2 to WWU 1 and 4.

CSS 3 to WWU 1 and 4.

CSS 4 to WWU 1 and 4.

CSS 5 to WWU 1 and 4

CSS 6 to WWU 1 and 4.

General Education Alignment to Program

How do the General Education criteria align with the Program Objectives? What courses within your program build upon skills learned in general education courses (please list the program course and the general education criteria). The General Education clusters are: Critical Analysis, Creative Expression, Quantitative Inquiry, and Society & the Individual. See attached for more detailed breakdown.

There are no general education courses in the major core courses.

GE_Cluster_Descriptions_FINAL_Version_Approved.docx

NSSE Objectives Discussed Fall 2019

Program Alignment to NSSE Objectives

How did your program integrate the three NSSE objectives determined by the faculty this fall. The objectives were to 1) integrate more interdisciplinary work within the curriculum, 2) to connect learning to societal problems or issues, and 3) to examine the strengths and weaknesses of their (students) own views on a topic or issue. Please articulate which courses, and what assignments were assigned and how the work was assessed. Were the assignments successful? What could have made them more successful?

Interdisciplinary work in the major focuses on cyber, management information and criminal justice coursework. General education and other such interdisciplinary coursework occur outside the core major courses.

This program connects learning to current issues in IT and cybersecurity. Courses such as Cyber Attacks and Defences, Critical Infrastructures and Cybercrime and Information Warfare draw upon major issues found in the information security realm and that impact society as a whole.

This program is designed to meet the National Security Agency Center of Academic Excellence in Cyber Defense and coursework focuses on meeting the requirements for this designation.

Curriculum Map

A - Assessed
R - Reinforced
I - Introduced
M - Master

Cybersecurity Curriculum Map

	CMJ 385	CMJ 440	CMJ 447	CSS 210	CSS 300	CSS 310	CSS 324
CSS.1 Discuss the impact of cybersecurity on society and organizations.			I	I	R	I	
CSS.2 Develop presentations and documentation to communicate technical content.	I		R	I, R	A	R	R
CSS.3 Describe the process of designing a computer system.					R		R
CSS.4 Design and implement cybersecurity solutions based on a set of requirements.	I	I	I	I	R	I	I
CSS.5 Identify and compare computer networks and architectures.			I		R		R
CSS.6 Communicate computer security principles and their application.	I	I	R	I, R	R	R	

	CSS 325	CSS 401	CSS 410	CSS 420	CSS 440	CSS 451	CSS 452
CSS.1 Discuss the impact of cybersecurity on society and organizations.			M, A			R	R
CSS.2 Develop presentations and documentation to communicate technical content.	R	I				R	R
CSS.3 Describe the process of designing a computer system.		R		R, M	R	R	R
CSS.4 Design and implement cybersecurity solutions based on a set of requirements.	I	A	A, M	R, M	R, M	R	R
CSS.5 Identify and compare computer networks and architectures.	R		R	R, M		R	R
CSS.6 Communicate computer security principles and their application.	R	A		R, M	R, M	R	R

	CSS 490	MIS 100	MIS 225	MIS 250	MIS 350	MIS 425	MIS 450
CSS.1 Discuss the impact of cybersecurity on society and organizations.	A, M	I					
CSS.2 Develop presentations and documentation to communicate technical content.	M, A	I	I		R		

CSS.3 Describe the process of designing a computer system.	M, A			I			I
CSS.4 Design and implement cybersecurity solutions based on a set of requirements.	M, A						
CSS.5 Identify and compare computer networks and architectures.	M, A			I		I	I
CSS.6 Communicate computer security principles and their application.	M, A		I	I	I		I

Changes to Curriculum

Are there any changes made to the curriculum map for this academic year? If so, please describe the program changes made along with the rationale for why and the impact the change should have on student learning?

Additional assessment pieces were added to the program which should provide assessment across the program. The change should enable faculty to better identify strengths and weaknesses in the curriculum and make adjustments to aid in student learning.

Assessment Findings

Assessment Findings for the Assessment Measure level for Cybersecurity Curriculum Map

CSS.1 Discuss the impact of cybersecurity on society and organizations.				
CSS 410				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion Students will average a score of 75% or higher on the Social Engineering Case Study Final Paper in CSS 410 been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research	Has the criterion The student will write a 20-25 page final research paper	This course was not offered during the academic year as		

Paper	based on an area within the cybersecurity domain. The student will present a 15-20 minute oral presentation to a faculty panel. The final research paper and oral presentation will be assessed at 75% or better as graded by a faculty panel been met yet? Not met	no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS.2 Develop presentations and documentation to communicate technical content.

CSS 300				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion Students will average a score of 75% or higher on the final research study in CSS 300. been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion The student will write a 20-25 page final research paper based on an area within the cybersecurity domain. The student will present a 15-20 minute oral presentation to a faculty panel. The final research paper and oral presentation will be assessed at 75% or better as graded by a faculty panel been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam. been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS.3 Describe the process of designing a computer system.

CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Case Study	Has the criterion Written User-Case Scenario. The student will be given a User-Case Scenario from which a series of multiple-choice or short answer questions will be answered. The answers will be assessed at 75% or better by a faculty panel. Been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS.4 Design and implement cybersecurity solutions based on a set of requirements.

CSS 401				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion Students will average a score of 75% or higher on the Encryption Case Study Final Paper in CSS 401. been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS 410				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion Students will average a score of 75% or higher on the Social Engineering Case Study Final Paper in CSS 410 been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Case Study	Has the criterion Written User-Case Scenario. The student will be given a User-Case Scenario from which a series of multiple-choice or short answer questions will be answered. The answers will be assessed at 75% or better by a faculty panel. Been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS.5 Identify and compare computer networks and architectures.

CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Case Study	Has the criterion Written User-Case Scenario. The student will be given a User-Case Scenario from which a series of multiple-choice or short answer questions will be answered. The answers will be assessed at 75% or better by a faculty panel. Been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam. Been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS.6 Communicate computer security principles and their application.

CSS 401				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Research Paper	Has the criterion Students will average a score of 75% or higher on the Encryption Case Study Final Paper in CSS 401. been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

CSS 490				
Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
Direct - Case Study	Has the criterion Written User-Case Scenario. The student will be given a User-Case Scenario from which a series of multiple-choice or short answer questions will be answered. The answers will be assessed at 75% or better by a faculty panel. Been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		
Direct - Final Exam	Has the criterion Students will score on average at or above 75% on the outbound assessment exam been met yet? Not met	This course was not offered during the academic year as no students in the major had progressed to a point of taking the course.		

Analysis of the Assessment Process

Describe your assessment process; clearly articulate how the program is using course work and or assessment day activities for program assessment. Note any changes that occurred to that process since the previous year. Discuss what activities were successful at assessment and which ones were not as helpful and why. Please include who met to discuss the changes (unless you are a program of one person) and when you met. – Include a discussion on the process for collection and analysis of program data.

This is an online course and as such does not participate in assessment day activities.

Improvement Narrative List
Assessment Findings for the Assessment Measure level

No improvement narratives have been added.

Program Activities

Student Performance Review

Describe the department assessment day activities if not already described previously. Please articulate the nature of the assessments are conducted, explain the process for assessment that happens on these two days. Include the schedule of assessment day for your program. What does the data and outcomes tell you? What changes will you make as a result of the data? What areas are successful for the program?

This program is only offered in an online format, student performance days are not applicable.

Student Performance Review Schedule

Upload the program schedule for students during Performance Reviews.

Senior Showcase

Describe program Senior Showcase activities if not detailed previously in the report? What benefit does the program gain from the activities? What if any assessment of students happens during this event? What changes if any will occur due to what is learned by faculty on Senior Showcase?

This is an online program, senior showcase is not applicable.

Assessment Rubrics

Upload rubrics used for Senior Showcase or Student Performance Reviews for student assessment.

Service Learning

Does the Program include projects/ course content that uses the philosophy of service learning?

Yes

No (selected)

Service Learning Component

If so, how is service learning infused in the coursework within your department? Is service or community engagement in the program mission? Describe the Service Learning Activities that your students and department engaged in this past year. How did the activities improve student learning? How did the activities benefit the community?

N/A

LEAD Events

Highlight lead events sponsored by program faculty that are connected to program or general education objectives for the past academic year. Include a total number of lead events program faculty sponsored.

This is an online program, LEAD events are not currently conducted by cyber faculty.

Student Accomplishments

Highlight special examples of student successes in the field (academic: mentor-mentee, conference presentations, competitive internship, journal acceptance; extra-curricular: horse show championship, art exhibit). This is for any accomplishments that a student achieved outside of course work or the normal expectations of student success.

This is a new program with 10 students currently seeking the degree. This is also an online program so opportunities for mentor-mentee, research, etc., are limited.

Alumni Accomplishments

Please highlight special examples of any successes of recent graduated alumni (acceptance or graduation graduate school, employment or professional milestones. Include recent graduates.

To date, no students have graduated from the program.

Faculty Accomplishments

Highlight special examples of faculty success in the profession/field/content area. This is for any accomplishment of a faculty activity/research/professional nature.

The Program Manager, Paul Frazier has been interviewed by Fox News and quoted by the New York Post on issues related to cybersecurity.

Assessment Rubric

	3.000 <u>Exceeds</u>	2.000 <u>Meets</u>	1.000 <u>Falls Below Expectations</u>	<u>N/A</u>
Mission Statement Clearly Articulated weight: 1.000	✓ The mission statement for the program is insightful and forward thinking. It aligns with the University Mission and learning objectives showing a clear alignment between the University and the program.	✓ The mission statement for the program clearly articulated and aligned with the University mission.	✓ The mission statement is minimal at best.	✓ N/A
Comment:				
Reflection on Retention weight: 1.000	✓ The program provides a detailed description on the retention numbers. The program provides new ideas on how to improve retention of their program students or articulates what they are currently doing to keep students in their program.	✓ The program provides a basic reflection on the retention data provided.	✓ The program does not reflect on retention data in a detailed way.	✓ N/A
Comment:	as a new program there is not much for a program to put into the plan on this section of the report.			
Defines External Accreditation Standards weight: 1.000	✓ The program provides a detailed explanation of the accreditation organizations within the field along with all the timeline and supplemental information required for accreditation.	✓ The program provides a basic explanation of the accreditation organizations in the field.	✓ The program fails to provide any accreditation information.	✓ N/A
Comment:	the program is not accredited but it is set up according to the standards for accreditation if that was part of a future plan			
General Education alignment clearly explained weight: 1.000	✓ The program provides a detailed explanation of the General Education criteria and how the basic skills learned are expanded upon in the program. Details include but are not limited to: specific courses, or activities that stretch the knowledge of the specific areas.	✓ The program provides a basic explanation of the General Education curriculum and how the skills learned are expanded in program courses.	✓ The program provides a minimal explanation of the General Education curriculum and how the skills learned are expanded in program courses.	✓ N/A
Comment:	The program needs to look at the description of this section as it is asking how the courses in the GE program provide a foundation for the major and how the major takes the learned skills in GE and hones them into technical skills needed for the major.			
Curriculum Map alignment weight: 1.000	✓ The curriculum map is detailed and complete.	✓ The curriculum map is complete	✓ The curriculum map is not complete	✓ N/A
Comment:				
Assessment of Objectives weight: 1.000	✓ Assessment of objectives are spread out across the curriculum with a variety of assessment measures and each program objective is assessed a minimum of twice a year.	✓ Each objective is assessed a minimum of 2 times a year or an assessment rotation is explained so that all objectives are assessed. The assessments are not concentrated in one class.	✓ The assessment map is not complete or much of the assessment happens in only one course. Not all objectives are assessed annually, nor is a plan provided on assessment.	✓ N/A
Comment:	Objectives 3 & 5 are only assessed in the final course through the writing of the research paper. A review of where that skill can be assessed earlier on would be beneficial to the program as student needs could be assessed in time to improve and make sure that students have the skills before it is too late to fix it.			
Data Driven Decision-making is explained weight: 1.000	✓ Curricular and assessment changes are articulated and validated through data based decisions. Faculty discuss the data that lead to curricular decisions being made.	✓ Curricular and assessment decisions are made based on data provided in assessment, but detailed alignment is not provided as justification for the change.	✓ Changes are proposed and brought forth with little explanation on the data included in the decision, if data was included in the decision.	✓ N/A
Comment:	The courses mentioned as assessment courses were not taught over the Academic year. As this is a new program, it might be a good idea to use assessment in the classes that are being taught to determine the success and academic content being conveyed. Then when the program is more established, the select courses can be used for assessment.			

Documentation provided on assessment findings weight: 1.000	✓ The program uploads all rubric and support information to support the claims in the assessment findings along with detailed instructions on the assessment process and data analysis.	✓ The program uploads all rubric and support information to support the claims in assessment findings.	✓ The program did not upload the data to support assessment claims in the assessment findings.	✓ N/A
Comment:	there was no data to upload as none of the assessment courses were taught.			
Analysis of Assessment is complete weight: 1.000	✓ The program completed assessment findings for each component identified, and provided a comprehensive summary of each assessment measure identified in the report.	✓ The program completed the assessment findings for each component and provided a summary for each assessment measure.	✓ The program did not provide a completed assessment findings for each component, nor did they complete the summary for each measure.	✓ N/A
Comment:	The program misread the question and answered pertaining to Student Performance Review and not assessment in general.			
Improvement narratives are selected with intentionality weight: 1.000	✓ The program identified Improvement Narratives that appear to move the program forward and see the bigger picture than only the specific program curriculum options	✓ The program used the provided Improvement Narratives and selected options that made sense to the objectives and issues within the assessment.	✓ The program did not use any improvement narratives, or the ones chosen are not aligned with assessment results.	✓ N/A
Comment:				
Student Performance Review weight: 1.000	✓ The program described and provided a detailed account of Student performance Review activities. Data evidence provided and detailed.	✓ The program provided the schedule and a brief description of Student Performance Review with data of the results.	✓ The program did not provide complete explanation on Student Performance Review nor did they provide data results.	✓ N/A
Comment:				
Senior Showcase weight: 1.000	✓ The program had all senior students participate in Senior Showcase and provided a detailed explanation of their expectation and the presentations presented.	✓ The program described the Senior showcase activities and provided some evidence of what was presented.	✓ Little to no content of Senior showcase was provided.	✓ N/A
Comment:				
Co Curricular activities weight: 1.000	✓ The program detailed the activities of LEAD and other co-curricular programing that was provided throughout the year. They provided numerous events for students.	✓ The program provided a listing of LEAD events and activities provided.	✓ The program provided little to no description of the Co-curricular activities provided throughout the year.	✓ N/A
Comment:				
Faculty, alumni, and Student accomplishments weight: 1.000	✓ The program provided detail updates on successes on Students, Alumni and Faculty with added information explaining the kinds of success that were experienced.	✓ The program provided a listing of information on Students, Alumni, and faculty accomplishments.	✓ The program provided little to no data on students, alumni, faculty accomplishments.	✓ N/A
Comment:				