



WILLIAM WOODS
UNIVERSITY

Cybersecurity Annual Assessment 2022-2023

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Annual Assessment 2022-2023

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
Hybrid (selected)

	Student Minors	Student Majors
2021-2022		9
2022-2023		15

Concentrations 2022-2023

If your program contains concentrations, please list the concentrations and the number of students identified within each concentration.

N/A

Concentrations 2021-2022

If your program contains concentrations, please list the concentrations and the number of students identified with each concentration.

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 the persistence numbers what the program expected? If not, how could the numbers improve?

The program is in the fourth year of offering for online and first year for on-ground. As we continue to enroll students and develop data points on initial retention, persistence and degree completion percentages (first graduates pending), we will be better able to identify trends and establish expectations. That being said, the program has maintained a 100% retention rate.

The program also has approval to develop a Cyber Lab on campus which will be used by both on-ground and online students. We are also partnering with the Missouri Military Academy on cyber initiatives as they are working with the Department of the Army in obtaining funding to offer cyber courses on their campus. The CSS 210 - Introduction to Cybersecurity course is planned to be offered on Mondays and Fridays from 11:00 am to 12:15 pm during the Spring 2024 term to allow MMA students to come to campus to take the on-ground course alongside William Woods University's students. There is ample opportunity for growth, but awareness of the program to potential students must be increased.

Four of the online students graduated at the end of this reporting period. The on-ground program has met with over a dozen prospective students and one student made a visit to campus that had interest in the online program. Prospective student numbers are good in the first full year of the program being offered on-ground and should continue to grow with further marketing and a cyber lab.

Optimal Enrollment

Considering current human and physical resources, what is the optimal enrollment for the program?

150

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.

Admissions and Marketing Materials

Reflect on the current marketing materials used for the program. Please attach screen shots of the website or any material you are referencing in this section. What changes, if any, should be made to the material? Are there recommendations on how to modify the current material?

We have developed a fact sheet, webpages have been created and we provided information for the Marketing department to develop a flyer (draft attached). Modifications to the Cybersecurity webpages have been submitted to the Marketing department in a change request form to be updated to reflect both the on-ground and online programs and the addition of the cybersecurity minor. (Changes are currently pending). Once these have been made, updates to the fact sheet will also be requested to reflect the updates.

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

Program Assessment

Standard/Outcome

Identifier	Description
WWU2021.1	Knowledge and Scholarship: Demonstrate current knowledge and educational expertise in an academic or professional discipline engaging students in the process of academic discovery.

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. Specific evidence is not to be uploaded, but discussion is expected of the assignment, and intentionality of how the objective is met with 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 Program Objectives? What courses within the program build upon skills learned from general education courses (please list the program course and the general education criteria)? The General Education clusters are attached to the document below.

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

GE_Cluster_Descriptions_FINAL_Version_Approved.docx

NSSE Objectives Discussed Spring 2022

Program Alignment to NSSE Objectives

Faculty discussed the most recent NSSE results in spring of 2022 and identified universal objectives for all academic content. Please articulate what the program is doing to further students' knowledge and skills in the following areas: 1C- Explained course material to one or more students; 2E - Tried to better understand someone else's view by imagining how an issues looks from his/her perspective; 4C-Analyzing an idea, experience, or line of reasoning in depth by examining its parts; 4D- Evaluating a point of view, decision, or information source. Please describe the activities used and the impact on student learning.

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.

1C - Students in the on-ground CSS 210 - Introduction to Cybersecurity course developed Lunch and Learn presentations on a cybersecurity topic of their choice and presented to the class. Additionally, they created an interactive component for the Lunch and Learn (quiz, game, structured discussion, etc.) that reinforced the topic that they presented on. Several students reported that this was one of the most impactful activities/assignments completed during the course as it gave them the ability to conduct outside research on a topic and delve a bit deeper into a specific topic.

2E - Also briefly covered in the Lunch and Learn presentations, students had to consider various audiences (technical, non-technical, etc.) and what information would be pertinent in conveying their chosen topic. Students provided additional descriptions and/or definitions of vocabulary used within their presentations to provide background information or context so that audiences that had not taken the CSS 210 course could also understand the presentation.

4C and 4D - Current events assignment in the on-ground CSS 210 course that connected to content within the book chapter. Assignment description below:

Using some of the cybersecurity news sources/blogs in the list below, find at least 3 articles (and provide links to each of them) that discuss recent cyberattacks or events related to the evolving attack and defense methods noted in the chapter and answer the following questions.

Of the five key areas listed under the UK Cyber Essentials scheme that are stated to protect against 80% of attacks (effective firewall positioning & management, secure configuration, user access controls, malware protection, and timely patch management), which one(s) seem to have been lacking for the organization/individual facing the attack or event? Which of these (if any) seem to be well implemented?

What governance information, compliance information, and/or risk information is shared within the articles?

Do any of these articles discuss the 3 trends mentioned in the chapter (increase in ransomware, capturing and re-using valid user and password access information, or DDoS)? If so, when and how did they occur?

What evolving defense methods were used (or could have been used) to prevent the attack or incident from occurring, or limiting the damage? This could include mobile device management (MDM), MFA, honeypots, or additional methods listed on page 115.

This assignment culminated in a class discussion about the articles found, the sources they were gathered from, and the types of cyber attacks and defenses that were included in the articles.

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

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

No changes were made from the previous year.

Changes to the Assessment Map

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

No changes made to the assesement map for this academic year.

Assessment Findings

Assessment Findings for the Assessment Measure level for Cybersecurity Curriculum Map

~No findings were submitted for the Assessment Cycle

Analysis of the Assessment Process

Describe your assessment process; clearly articulate how the program uses coursework and or Student Performance Review for program wide assessment. Note any changes that occurred to the process since the previous year. Discuss what activities were successful 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.

The Assessment Process was divided between the on-ground program manager (Nina McKee) and the online program manager (Paul Frazier) for the Cybersecurity program and both individuals met on zoom to discuss potential changes to the assessment techniques going forward. Assessment activities primarily occurred in the online courses taught by Paul (CSS 300, CSS 410 - see assessment map for details). Student Performance Review activities and the Senior Symposium / Showcase activities were developed and planned by Nina. Overall, both individuals have discussed the need for an aligned assessment activity that both online and on-ground students can take during the freshman year and senior year to provide concrete data to collect and analyze to demonstrate outcomes of the program. During this academic year, work began towards compiling assessment questions for a multiple choice quiz that would be administered to students in the program (hypothetically during the CSS 210 - Introduction to Cybersecurity and CSS 490 - Capstone courses or on Student Performance Days). This quiz would provide a baseline for all students regardless of modality of their knowledge of the content from the courses. The other activities outlined in the Senior Showcase and Student Performance Day sections of this report are beneficial in supporting students and enriching their experiences but could be strengthened by activities that show specific data. Additionally, offering opportunities for online students to participate in the Senior Showcase and the Student Performance Day would be another area that could strengthen the assessment process.

Improvement Narrative List

Program Activities

Student Performance Review

Describe the department Student Performance Review activities if not already articulated. Please describe the nature of the assessments conducted as well as the process of assessment happening 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?

For the 2023 Student Performance Review held on Wednesday, February 22nd, the on-ground cybersecurity majors attended a couple different sessions designed to reinforce the first program objective (Discuss the impact of cybersecurity on society and organizations). The first session was a panel of industry professionals that spoke about their experiences within the workforce as well as addressed topics pertaining to how cybersecurity affects our society now (and in the future). Some questions were predetermined for the panel and highlighted various facets of cybersecurity in society and others were generated by students in advance of the panel.

Following this, students were given the opportunity to reflect on the panel and the impact of cybersecurity on society and organizations through some open-ended response questions. Here, they responded to similar questions posed to the panel as well as considered ideas and topics from prior courses they had taken. Students also participated in a Professional Development Workshop in which an overview of continuing education and enrichment resources related to cybersecurity skills and tools were presented.

During the prior academic year, no activities were held on the Student Performance Review day. Going forward for the program, students will also participate in a multiple choice quiz that assesses their knowledge of the discipline. This quiz

will be given to both on-ground and online students to further align the assessment activities for both components of the program.

Student Performance Review Schedule

Upload the program schedule for students during Performance Reviews.

Cybersecurity_Performance_Day_2023_Agenda_Part_2.png

Cybersecurity_Performance_Day_2023_Agenda_Part_1.png

Senior Showcase/Symposium

Describe program activities used to highlight Senior achievement. What benefit does the program gain from the activities?

What if any assessment of students happens during this event?

For the 2023 Senior Showcase / Symposium, held on Thursday, April 13th, all of the on-ground cybersecurity majors (7 students) taking the MIS 450 - Systems Analysis course presented their final during the daytime session (10 am - 12 pm). These final projects took the form of a final report (components presented in a slideshow format) detailing a software application idea each student had developed throughout the semester. These application ideas were not programmed/coded during the course, but the business and use cases, screen mockups, and associated UML (unified modeling language) diagrams included within the report. Students presented to an audience of peers, faculty members, and their classmates. This particular year, I did not have any graduating seniors in the on-ground cybersecurity program and students ranged in grade level. This event provides a more formal environment to refine presentation skills and allow students to gain experience with public speaking with different audiences. It also provides a forum for the program to share student work. This particular year, no specific assessment activities occurred during this event.

Tools used for Assessment

Upload rubrics or other Assessment based tools used by the program that are important to the assessment process.

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?

There were no activities that fell within this category during the academic year.

Co-Curricular and LEAD Events

Describe Co-Curricular and LEAD events sponsored by program faculty. This includes LEAD and other events meant to engage students and foster learning outside of the classroom.

Below is the list of events I sponsored during the reporting period:

- Apple Event (2 sessions - total attendance 44 between both sessions) | 9/7/22
- The Social Engineering Game (2 sessions) | 10/26/22

- Arcade at Aldridge (80 students in attendance) | 4/14/23

For the Apple Event, I live-streamed (and then held an encore session) of the September 2022 product announcements for students to be able to watch. Along with this, I created a Google Form reflection and accompanying QR code for students to scan and respond to for credit for attending the event. The Social Engineering Game event was adapted from an activity I developed for my Introduction to Cybersecurity course. I held two sessions of this event during Cybersecurity Awareness Month to engage students with Cybersecurity-related topics during October.

Along with the Social Engineering Game, I also decorated my office door according to the same theme to highlight various types of social engineering techniques and how to avoid them for Halloween. Similarly for the holidays, I created a Santa's Cybersecurity Checklist themed display to provide education about different types of updates, password security tips, and online shopping cybersecurity considerations. The final LEAD event that I hosted this year was an "arcade" style event with multiple video game stations set up along with coloring page stations for students to engage with during alumni weekend. This event also featured QR codes with a flipbook displaying student work and an overview of the Cybersecurity program's activities for the year.

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 accomplishment a student achieved outside of course work or the normal expectation of student success.

Academic All-AMC Teams

To be eligible for Academic All-Conference honors, student-athletes must be in their second semester at their AMC institution, have at least a 3.0 GPA and finish the year on the team.

- Jared Stephens, Baseball
- Dustin Russell, Men's Track & Field

AMC Men's Track and Field Championships

First Team All-AMC

- Dustin Russell – 4x800m relay

Second Team All-AMC

- Dustin Russell – 3000m steeplechase

Additional Athletic/Academic Honors by Student

Dustin Russell

- 2022 NAIA Scholar-Athlete

- 2022 Academic All-AMC

William Woods Honors - Indoor Track & Field

- 2022 All-AMC First Team - 4x800 Meter Relay

William Woods Honors - Outdoor Track & Field

- 2022 All-AMC Second Team – 3000-meter steeplechase, 4x800-meter relay

- 2022 Academic All-AMC

First Team All-Conference 2023 AMC Indoor Championship

Distance Medley Relay

800 M

AMC Track & Field Champions of Character Team (2022)

Dean's List (Fall 2022, Spring 2022, Fall 2021)

Alumni Accomplishments

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

No alumni accomplishments to report for this reporting period.

Faculty Accomplishments

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

Nina McKee (on-ground instructor) - Completed Masters of Cybersecurity from Maryville University (August 2022)

Steffany Tinnin (adjunct) - New Job - Enterprise Risk Management team lead - Works with the Office of the Undersecretary of Defense - Comptroller (OUSD-C)

Assessment Rubric

Clear	3.00 Exceeds	2.00 Meets	1.00 Falls Below Expectations	N/A
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 Student Demographics, Retention, and Degree Completion Data weight: 1.000	✓ The program provides a detailed description on the enrollment, retention, persistence and degree completion 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 enrollment, retention, persistence, and degree completion data provided.	✓ The program does not reflect on enrollment, retention, persistence, and degree completion data in a detailed way.	✓ N/A
Comment:				
Marketing Materials weight: 1.000	✓ The program outlines the successes and needs in regards to marketing. Detailed suggestions on how to market the program and what niche areas that are program specific would benefit the marketing strategy.	✓ The program discussed the general marketing strategy for the program.	✓ The program provided little to no discussion on the marketing materials or approach to how to market the program.	✓ N/A
Comment:				
Alignment to University Objectives weight: 1.000	✓ The program provides a detailed explanation of how program courses align to the Institutional Objectives. This explanation details specific courses, or activities that coordinate with the intent of the Institutional Objectives.	✓ The program provides a basic explanation of how program courses align to the Institutional Objectives. This explanation provides a minimal understanding of how the program is aligned to the Institutional Objectives.	✓ The program provides little to no explanation of how program courses align to the Institutional Objectives.	✓ N/A
Comment:	unclear what this part is referencing as the WWU objectives were awaiting approval - this is to align to the new mission statement until the objectives that speak to the new mission are approved.			
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:	what this is asking is for the skills learned in general education - how are they used within your program - why the skills learned in GE are foundational to someone in the CSS industry.			
NSSE Objectives weight: 1.000	✓ The program provided a detailed listing of activities and assessments used within the program that focused on the identified NSSE objectives. The activities and assessments were divided out within the curriculum and impacted different cohort groups.	✓ The program provided a basic explanation of the activities and assessments used within the program that focused on the identified NSSE objectives.	✓ The program provided minimal explanation of the activities and assessments used within the program that focused on the identified NSSE objectives.	✓ N/A
Comment:				
Curriculum Map alignment and changes weight: 1.000	✓ The curriculum map is detailed and complete. All Changes made to the curriculum map are detailed with supporting rationale for the decision..	✓ The curriculum map is complete. Changes made to the curriculum map are explained with some explanation as to why the changes were implemented.	✓ The curriculum map is not complete and little to no explanation on curricular changes was provided.	✓ N/A
Comment:				
Assessment Map 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:	the assessments were noted but not identified in the assessment map - the assessment findings will not populate without a description of the assessment activity noted in the map section.			

Data Driven Decision-making is explained weight: 1.000	✔ An overview of program assessment is provided with details on the specific successes and challenges from the year. A detailed review of how assessment was administered over the academic year is clearly outlined.	✔ A basic overview of program assessment is provided with some details on the successes and challenges from the year. A basic review of how assessment was administered over the academic year is outlined.	✔ A basic overview of program assessment is not provided with little to no discussion on the administration of assessment over the academic year.	✔ N/A
Comment:				
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:				
Analysis of Assessment 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:	Need to identify ways to make the assignment for the online and the on ground work - but also cross over so that it is understood how and why the assessments are what they are.			
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:	this is an online and an on ground program so there is some confusion as to how some of these requirements work for online programs.			
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 and LEAD activities weight: 1.000	✔ The program detailed the activities of LEAD and other co-curricular programming 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:				

Appendix: Supplemental Data

CYBERSECURITY

ONLINE BACHELOR OF SCIENCE



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flourish!

Secure a degree in a fast growing industry

This program includes theoretical and practical hands-on approaches preparing students to enter the IT and Cybersecurity workforce or continue their education in a professional graduate degree program; and, our cyber-lab allows student real world Cybersecurity, through 'hands-on' practice.



Cloud Security

Social Engineering

Cyber Crime and Information Warfare

Cyber Attack and Defense

The William Woods University Cybersecurity degree program prepares you to secure the most sought after IT positions immediately upon graduation. By immersing yourself into this online program that is grounded in theory and based upon practice, you will earn your bachelor's ready to enter an industry that, according to several employment reports, has grown 37% year-after-year since 2012.

This is not just a degree program! You will learn what you need in order to prepare for specialty areas associated with the CompTIA Security-Plus (Security+) examination(s).

Advantages and Benefits:

- 100% online
- Convenient 8-week courses
- Digital classroom available anywhere anytime
- Taught by professionals in the field of Cybersecurity





ONLINE COURSES

Our Cybersecurity program is fully online and affords students the opportunity to learn through our secure cyber lab.

UNIQUE OPPORTUNITIES

In the cyber program, students will be provided the opportunity to complete an internship or independent study project. The program will offer courses through a secure Cybersecurity lab where students will be able to apply their knowledge in areas such as cyber-attacks and defenses, cloud security, cybercrime and information warfare.

TRANSFER CREDITS

William Woods University is a transfer-friendly institution. Students who maximize transfer of credits may be able to complete the Cybersecurity program in 2 years.

CAREER OPPORTUNITIES

- Computer Systems Analyst
- Computer System Administrator
- Chief Information Security Officer
- Incident Responder
- Information Systems Manager
- Information Security Analyst
- Security Consultant
- and many more

“What is exciting about this program is the opportunity to bring Cybersecurity education to Mid-Missouri and to be able to reach students ‘where they are’ through our online program. Our graduates will fill an urgent need for highly-skilled cyber and information security professionals in private, military and governmental agencies.”

~Stephen Forsha, Director of the School of Business and Technology

Cybersecurity Has Become One of the Fastest Growing Fields

Advances in technology and globalization have created an interconnected world that needs to be safeguarded against malicious actors. A 2018 Cybersecurity Market Report predicts cumulative spending on cybersecurity products will exceed \$1 trillion over the next five years. New, lucrative job titles are being spawned in this growing field. For instance, Information Security Analysts – earning salaries of more than \$95,000 – are expected to grow at an annual rate of 28% through 2026. This massive growth is prompted by a need to secure the personal, corporate, and governmental spheres of our lives.

CYBERSECURITY

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Learn by Doing

This program includes theoretical and practical hands-on approaches preparing students to enter the IT and cybersecurity workforce or continue their education in a profession graduate degree program. The creation of a cyber-lab in support of this program will provide students with opportunities to learn about cybersecurity through 'hands-on' practice.



Cloud
Security

Social
Engineering

Cyber
Crime and
Information
Warfare

Cyber
Attack and
Defense

This program prepares graduates to secure information security positions immediately upon graduation by immersing them in a cybersecurity program grounded in theory and based upon practice. This experience will prepare students in specialty areas associated with the CompTIA Security-Plus (Security+) examination(s). This will provide a bachelors level education that prepares students for the cyber certification examination covering Network Security, Compliance and Operational Security, Threats & Vulnerabilities, Application, Data and Host Security, Access Control & Identity Management and finally, Cryptography.

Advantages and Benefits:

- 100% online
- Convenient 8-week courses
- Digital classroom available anywhere anytime
- Taught by professionals in the field of Cybersecurity





..... ONLINE COURSES

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- Information Systems Manager
- Information Security Analyst
- Security Consultant
- and many more

“What is exciting about this program is the opportunity to bring cybersecurity education to Mid-Missouri and be able to reach students ‘where they are’ through our online program. Our graduates will fill an urgent need of for highly skills cyber and information security professionals in private, military and governmental agencies.”

~Stephen Forsha, Director of the School of Business and Technology

Online Bachelor of Science (BS) in Cybersecurity

Stand on the frontlines of information security

As the number of cyberattacks have grown in frequency, government organizations, financial institutions, healthcare organizations and corporations in all industries understand the importance of professionals who will keep their confidential information, private records and their overall information secure.

The online Bachelor of Science in Cybersecurity degree program is designed to prepare a generation of students to enter the workforce equipped to create innovative solutions to protect information in the face of hackers and growing cybersecurity threats. Through your study you will gain a wide range of experience and a deep understanding of the cybersecurity field as you take courses in areas such as cybersecurity, systems analysis, cybercrime and information warfare, encryption techniques and more.

This program will provide you with knowledge in the specialty areas needed to complete the CompTIA Security-Plus (Security+) cyber certification examination(s), covering network security, compliance and operational security, threats and vulnerabilities, application, data and host security, access control and identity management and finally, cryptography.

Special opportunities:

- Gain hands-on experience working in our cybersecurity lab applying your knowledge in areas such as cyber-attacks and defenses, cloud security, and cybercrime and information warfare.
- Learn from faculty who are experts in the field of cybersecurity and have extensive background experience working in both industry and government.
- Intern with a local organization and gain real world experience putting the cybersecurity theories and applications you've learned in the classroom to the test.

- Undergraduate +
- Graduate +
- Online -
- Undergraduate Programs Online
- Transfer Programs Online
- Graduate Programs Online
- Academic Catalog +
- A to Z Programs
- STEM/STEAM Programs
- Education Programs
- Business Programs

2018 Application Deadline

Classes start in Aug., Oct., Jan., Mar., Apr. and June.

Classes start August 20th, [apply today](#).

https://www.williamwoods.edu/academics/online/undergraduate/bachelor_of_science_in_cyber... Online Bachelor of Science ... X

- Benefit from the flexibility of classes that fit your schedule and support 24/7 for online learning students.

Your cybersecurity degree at work

Bachelor in cybersecurity graduates will be prepared for demanding positions in public and private sectors overseeing, operating, or protecting critical computer systems, information, networks, infrastructures and communications networks. These graduates typically pursue careers as information security analysts particularly in the banking and financial industry, healthcare industry, governmental organizations and within the military.

Students who choose to pursue a graduate degree following their bachelor in cybersecurity are well positioned to pursue graduate degrees such as a MS in Cybersecurity or a MA in Information Technology Management.

Perspectives

“This program prepares graduates to secure information security analyst positions immediately upon graduation by immersing them in a cybersecurity program grounded in theory and based upon practice. Our cyber-lab provides students with opportunities to learn about cybersecurity through ‘hands-on’ application.”

— Dr. Stephen Forsha, Director of the School of Business and Technology

Requirements/Curriculum

The Bachelor of Science in Cybersecurity degree at William Woods University consists of 124 distinct credit hours for graduation — including 57 core major credits and a capstone component.

Courses you may take

Request Information

- Apply Online
- Attend Info Session

What is the right major for you?

Take a quick survey to discover what majors you will flourish in.

[Get started »](#)

From the blog

[Why Cybersecurity Has Become One of the Fastest Growing Fields](#)

Jul. 30, 2018

Advances in technology and globalization have created an interconnected world that needs to be safeguarded against malicious actors. The cybersecurity market, which reached \$80 billion in 2017, is expected to grow to \$110 billion by 2020. New lucrative job titles are being spawned in this growing field. For instance, Information Security Analysts – earning salaries of [...]

3:45 PM 8/16/2018

Major Details

Cybersecurity Studies - BS

Delivery Method: **Online**

The Bachelor of Science degree in cybersecurity is designed around identified core knowledge areas supporting information security. The program includes theoretical and practical hands-on approaches preparing students to enter the IT and cybersecurity workforce or continue their education in a profession graduate degree program.

Course List - Minimum Required Hours: 66.00

Download Checklist

Course #	Course Title	Hours
CMJ 385	Digital Evidence and Forensic Investigations	3.00
CMJ 440	Cybercrime and Information Warfare	3.00
CMJ 447	Information Security	3.00
CSS 210	Introduction to Cybersecurity	3.00
CSS 310	Cybersecurity Law & Ethics	3.00
CSS 324	Cybersecurity & Internet Architecture	3.00
CSS 325	Cyber Attacks and Defenses	3.00
CSS 401	Encryption Techniques	3.00
CSS 410	Social Engineering	3.00
CSS 420	Critical Infrastructures	3.00
CSS 440	Cloud Security	3.00

Academic Catalog

- Majors
- Minors
- General Education
- All Courses
- Academic Policies
- Academic Catalog (PDF)
- Search Catalog
- Advanced Course Search

This is the UNOFFICIAL Academic Catalog. This site is dynamic, subject to change and therefore may not always represent the offerings and curriculum of the latest or current academic year.

To view the official catalog for a specific academic year, please see the Official Catalog link.

Why Cybersecurity Has Become One of the Fastest Growing Fields

July 30th, 2018

William Woods Undergraduate

Advances in technology and globalization have created an interconnected world that needs to be safeguarded against malicious actors. The cybersecurity market, which reached \$80 billion in 2017, is expected to grow to \$110 billion by 2020. New lucrative job titles are being spawned in this growing field. For instance, Information Security Analysts – earning salaries of more than \$95,000 – are expected to grow at an annual rate of 28% through 2026. This massive growth is prompted by a need to secure personal, corporate, and governmental spheres of our lives.

Securing Personal and Business Data

According to the Washington Post, every year \$665 billion are stolen through identity theft and credit card fraud. Between Jan. 1, 2017, and March 20, 2018 there were 1.9 billion records containing personal and other sensitive data that had been compromised. Hackers target businesses to steal credit cards, bank accounts, and employees' identities. Others steal corporate intellectual property such as designs, plans, and code. Cybersecurity professionals in corporations are working around the clock to protect personal and business data – and keep a level playing field for individuals and corporations.

Defending the Homeland

In 2015, over seventy seven thousand cybersecurity incidents were reported by federal agencies in the United States. The government cybersecurity experts defend against attackers who want to steal military secrets and strategies to gain competitive advantage on the geo-political front.

Protecting Critical Infrastructure

Imagine what might happen if software hackers infiltrate and shut down dams, power plants, chemical plants, airports, and public health facilities. Our lives would literally come to a halt and the normal functioning of society would come to an end. Teams of cybersecurity specialists work to keep our critical infrastructure safe against such threats.

Preventing Political Influence

As recent elections have shown, governments are perpetually trying to influence elections in foreign countries for ideological, political and economic reasons. They are exploiting security weaknesses in the software infrastructure of political parties to uncover and justify their strategies and plans. State and federal

Categories

- Athletic Training
- Biology
- Communications
- Cybersecurity
- Exercise Science
- Fine Arts
- Graphic Design
- Management Information Systems
- Pre-Vet
- Sports Management

Archives

- August 2018
- July 2018
- May 2018
- April 2018
- March 2018
- February 2018
- January 2018
- December 2017

Cybersecurity Performance Day

Wednesday, February 22 | Burton 102

Cybersecurity Professional Development 1 pm to 2 pm

Free PD from Across the Industry!

Take your skills and knowledge to the next level with free professional development resources that we will highlight (courses, labs, webinars and more)!!



CYBRARY



Leveling up LinkedIn

You will get the opportunity to review and update the following criteria for your LinkedIn Profile :

- Projects
- Experience
- Courses
- Awards/Honors
- Volunteering
- Organizations

Cybersecurity Performance Day

Wednesday, February 22 | Burton 102

Cybersecurity in Society Panel and Q&A

10:00 am to 11:30 am

Join in for this panel of industry professionals as they share their experiences with cybersecurity throughout their careers, provide insights on cybersecurity now and into the future, and answer your questions about the industry.

Following the panel and Q&A you will reflect on some of the questions asked during the session.

The Panelists

Brett Hodges – Senior Systems Administrator – Anders CPA+

Adam Johns – Director of IT – Camdenton Schools

Nick Saravara – Cybersecurity Specialist – Missouri Department of Public Safety