



EPNC CAREER COUNSELORS AND  
ACADEMIC ADVISORS

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# CYBERSECURITY CAREERS WORKBOOK

Unlocking Cyber Success: Your Guide to Thriving in Security Careers.

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## ACTIVITY 1 – EXPLORING CYBERSECURITY CAREERS

Activity one provides an opportunity for participants to explore Cybersecurity Careers using several of the Cybersecurity Careers Toolkit for career Counselors and Academic Advisors. The activity will introduce three toolkit recourses:

1. Workforce Framework for Cybersecurity (NICE Framework)
2. Cyber Careers Pathways Tools
3. Cybersecurity for Students (NICCS Portal)

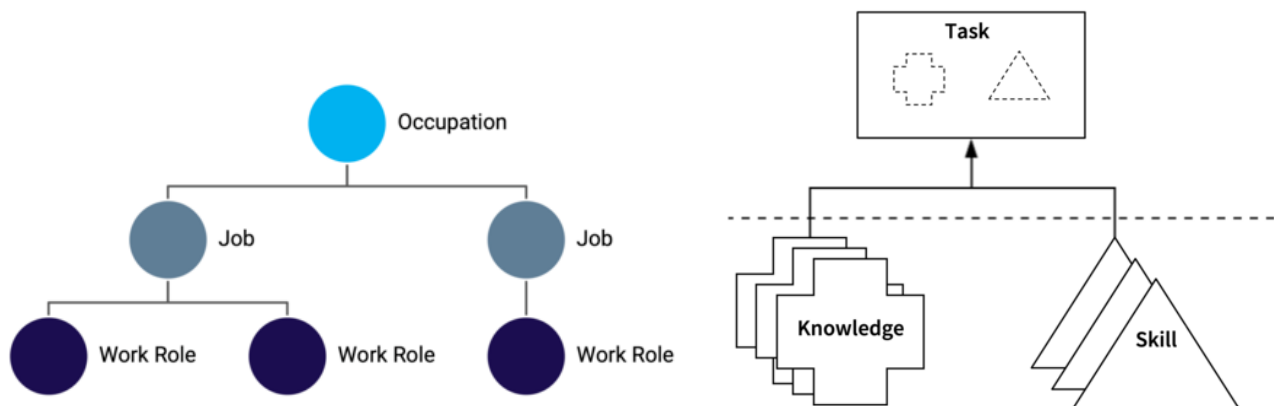
### EXPLORING CYBERSECURITY CAREERS

#### PART 1 - GO TO THE FOLLOWING URL:

<http://niccs.cisa.gov/workforce-development/nice-framework>

The National Initiative for Cybersecurity Education (NICE) is a framework that assist employers, government agencies and academy in developing a robust pipeline of cybersecurity professionals. The framework organizes the cybersecurity workforce into an understandable framework that helps cybersecurity ecosystem stakeholders to identify, recruit, develop and retain talent. The framework consists of:

- Associates Task, Knowledge, and Skills (TKS)
- Work Role Categories
- Work Roles
- Competency Areas





**Step 1:** Use the NICE framework to explore each of the framework elements: Emphasize the diversity in the cybersecurity profession. Complete the table below:

Category of Work	Use one sentence to describe each Category.
CYBERSPACE INTELLIGENCE	
CYBERSPACE EFFECTS	
INVESTIGATION	
IMPLEMENTATION AND OPERATION	
OVERSIGHT AND GOVERNANCE	
PROTECTION AND DEFENSE	
DESIGN AND DEVELOPMENT	

Note: Compare and contrast technical, professional versus analytical work roles.

**Step 2:** Explore five completely different types of cybersecurity professions:

Work Roles	Task, Knowledge, and Skills
Cyber Intelligence	
Cyberspace Effects	
Investigation	
Implementation & Operation	
Oversight & Governance	

Note: See the cybersecurity work role table in the toolkit.

**Step 3:** The work roles determine both the qualifications and earning potential of cybersecurity related professions. Use the NICCS portal career exploration map (<https://niccs.cisa.gov/cybersecurity-career-resources/interactive-cybersecurity-career-map>) to explore the following:

Job Title	Metro Area	Salary (min-max)
Cyber Intelligence Planning	DC-VA-MD-WV	
Target Analysis	Illinois	
Digital Evidence Analysis	California	
System Security Analysis	Nation Wide	
Select a work Role	Select your region.	
Select a work Role	Select your region.	

Note: The NICCS portal specifically focuses on federal jobs. The one of the following online job posting websites.

- <https://www.indeed.com/>
- <https://www.dice.com/>
- <https://www.monster.com/>



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**PART 2 - GO TO THE FOLLOWING URL:**

<https://trycyber.us/challenges/>

1. **Hands-on activity:** each student will complete one challenge.
2. **Discussion:** In groups or as a class, students will discuss the reason for their selection and experience during the challenge.

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**ACTIVITY 2 – CONSIDERING CYBERSECURITY CAREERS****CAREER EXPLORATION AND COMPARISON**

Choosing the right career path is a critical decision that shapes a student's educational journey and future. It's essential for students to realize that their career choice will influence the classes they enroll in, the institutions they might attend, and the time investment needed to achieve their ambitions. Often, students determine their career paths with limited research or exploration. This is the juncture at which the role of career advisors and educational counselors becomes pivotal, as they help steer students towards informed decision-making. The proposed activity is designed to engage students in a thoughtful comparison of different careers based on a range of key factors.

**Objective:** To enable students to analyze and compare careers in cybersecurity with other careers of interest based on key factors.

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**PART 1: RESEARCH AND REFLECTION**

1. **Career Selection:** Students will choose a career in cybersecurity and one or more other career they are interested in.
2. **Initial Reflection:** Students will write a brief description of why they are interested in these careers.
3. **Research Phase:** Using available resources, students will research both careers focusing on the factors listed in the Career Comparison Table.

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**PART 2: ANALYSIS AND COMPARISON**

1. **Filling the Table:** Students will fill in the Career Comparison Table with information gathered during their research.
2. **Discussion:** In groups or as a class, students will discuss their findings, highlighting similarities and differences between the careers.

### PART 3: PERSONAL EVALUATION

1. **Reflection:** Students will reflect on which career aligns more with their personal goals, interests, and values based on the comparison.
2. **Presentation:** Optionally, students can present their findings and reflections to the class.

### RESOURCES

1. Interest Self-Assessment: <https://www.careeronestop.org/Toolkit/Careers/interest-assessment.aspx>
2. Skills Assessment: <https://www.careeronestop.org/Toolkit/Skills/skills-matcher.aspx>
3. Work Values Assessment: <https://www.careeronestop.org/Toolkit/Careers/work-values-matcher.aspx>
4. MIT Living Wage Calculator: <https://livingwage.mit.edu/>
5. Where Work Pays: <https://www.hamiltonproject.org/data/where-work-pays-occupations-earnings-across-the-united-states/>
6. Compensation/Salary Taxes Calculator: <https://smartasset.com/taxes/paycheck-calculator#mMVjqb9McW>
7. A Day in the Life of Americans: <https://flowingdata.com/2015/12/15/a-day-in-the-life-of-americans/>
8. The Way Up: <https://www.thewayup.co.uk/the-way-up-game/>

### CAREER COMPARISON TABLE (1)

Factor	Career in Cybersecurity	Other Career of Interest
Employment Opportunities	[Cybersecurity Employment Info]	[Other Career Employment Info]
Earning Potential	[Cybersecurity Earnings]	[Other Career Earnings]
Nature of Work	[Description of Cybersecurity Work]	[Description of Other Career Work]
Qualifications Required	[Cybersecurity Qualifications]	[Other Career Qualifications]
Service to Others	[Cybersecurity Service Aspect]	[Other Career Service Aspect]
Self-Satisfaction	[Personal Fulfillment in Cybersecurity]	[Personal Fulfillment in Other Career]

Note: The table can be used more than once to compare other career options.

### Tips for the Exercise

- **Resources:** Provide students with a list of reliable resources to aid their research.
- **Guidance:** Offer guidance on how to evaluate and interpret information about careers.
- **Examples:** You may want to provide a completed table as an example.
- **Discussion Points:** Encourage students to think critically about each factor and how it aligns with their personal values and life goals.

### CAREER COMPARISON TABLE (2)

Factor	Career in Cybersecurity	Other Career of Interest
Employment Opportunities	<i>[Cybersecurity Employment Info]</i>	<i>[Other Career Employment Info]</i>
Earning Potential	<i>[Cybersecurity Earnings]</i>	<i>[Other Career Earnings]</i>
Nature of Work	<i>[Description of Cybersecurity Work]</i>	<i>[Description of Other Career Work]</i>
Qualifications Required	<i>[Cybersecurity Qualifications]</i>	<i>[Other Career Qualifications]</i>
Service to Others	<i>[Cybersecurity Service Aspect]</i>	<i>[Other Career Service Aspect]</i>
Self-Satisfaction	<i>[Personal Fulfillment in Cybersecurity]</i>	<i>[Personal Fulfillment in Other Career]</i>



## ACTIVITY 3 - EXPLORING ACADEMIC CREDENTIALS AND INSTITUTIONS IN CYBERSECURITY

### OBJECTIVE

To help students understand the variety of academic credentials available in the field of cybersecurity and to research the offerings of various educational institutions.

### EXPECTED OUTCOMES

- Students will gain a deeper understanding of academic credentials and the offerings of various educational institutions.
- They will develop research skills and learn to evaluate academic programs in the context of their career goals.
- The exercise will help students make informed decisions about their future education and careers in cybersecurity.

This exercise incorporates research and decision-making skills, aligning with the toolkit's objective of guiding students in their cybersecurity career journey.

### MATERIALS NEEDED

- Copies of the relevant section from the "EPNC Cybersecurity Careers Toolkit"
- Access to the internet for research (computers or tablets)
- Pen and paper for each student
- Whiteboard or projector for group discussion

### ACTIVITY STRUCTURE

#### 1. Introduction (3 minutes)

- Explain the importance of academic credentials in cybersecurity careers.
- Introduce the concept of researching different types of educational institutions.

#### 2. Individual Reading and Initial Research (7 minutes)

- Students read the section on academic credentials, focusing on types (certificates, bachelor's degrees, etc.).
- Using the internet, students quickly search to identify local, regional, and national institutions offering cybersecurity programs.

#### 3. Group Discussion (5 minutes)

- Discuss the different types of academic credentials and their relevance in cybersecurity.
- Share initial findings on various educational institutions and their offerings.

**4. Detailed Research Activity (10 minutes)**

- Divide the students into small groups.
- Assign each group to research one type of institution: local community college, regional 4-year college, national university, or research university.
- They should look for cybersecurity programs, admission requirements, tuition costs, and unique offerings.
- Encourage them to use official college websites and educational resources for accurate information.

**5. Group Presentations (10 minutes)**

- Each group presents their findings, focusing on the strengths and potential career paths associated with the programs they researched.
- Encourage a brief Q&A after each presentation to engage the class.

**6. Personal Reflection and Planning (5 minutes)**

- Students individually write down which type of institution and academic path they find most appealing for a career in cybersecurity.
- Ask them to consider location, cost, program specifics, and career goals.

**7. Sharing and Conclusion (5 minutes)**

- Invite a few students to share their plans and reflections.
- Conclude by emphasizing the importance of aligning academic choices with career aspirations in cybersecurity.

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**MODIFIED TASK FOR MULTIMEDIA DELIVERABLES**

Incorporating multimedia deliverables can significantly enhance student engagement and learning. These modifications will make the exercise more interactive and help students develop their research, technological, and presentation skills. Creating multimedia content like infographics and videos can be particularly appealing to students, making the learning process more engaging and effective.

1. After completing their research on different types of educational institutions and academic credentials, students will create an infographic or a PowerPoint presentation.
2. The infographic or presentation should highlight the key differences between the institutions (like community colleges, 4-year colleges, and universities), the types of cybersecurity programs they offer, admission requirements, and any unique advantages.
3. Students can use tools such as Canva, Piktochart, or PowerPoint.

4. **Collaboration and Role Assignment:** Encourage students to work in groups, assigning roles such as researcher, designer, scriptwriter, and presenter to distribute tasks evenly.
5. **Creativity and Content:** Emphasize the importance of the information's aesthetic appeal and accuracy. The deliverables should be engaging as well as informative.
6. **Presentation and Feedback:** Allocate time for students to present their multimedia deliverables to the class. A feedback session can follow this presentation to encourage peer learning.
7. **Technical Support:** Provide guidance on using the chosen multimedia tools and ensure students can access the necessary resources.

## ACTIVITY 4 - EXPLORING CYBERSECURITY MAJORS AND THEIR IMPACT ON CAREER PROSPECTS

### OBJECTIVE

To help students understand the significance of choosing a cybersecurity major in college and its impact on career prospects and lifetime earnings.

### EXPECTED OUTCOMES

- Students will understand the importance of selecting a college major and how it can affect their career and financial future.
- They will learn about various cybersecurity majors and the specific benefits of each.
- The exercise will encourage students to think critically about their educational and career choices in cybersecurity.

This exercise aligns with the toolkit's aim to guide students in making informed decisions about their educational paths and career choices in cybersecurity.

### MATERIALS NEEDED

- Copies of the "Cybersecurity Majors" section from the "EPNC Cybersecurity Careers Toolkit"
- Internet access for research
- Pen and paper for each student

### ACTIVITY STRUCTURE

#### 1. Introduction (3 minutes)

- Briefly explain the importance of choosing a major in college, specifically focusing on cybersecurity.
- Distribute the "Cybersecurity Majors" section from the toolkit.

#### 2. Individual Reading (5 minutes)

- Students read the section focusing on the benefits of obtaining a college degree in cybersecurity, such as employment opportunities and potential lifetime earnings.

#### 3. Research Activity (7 minutes)

- Instruct students to research different cybersecurity majors available in various colleges and universities. They should look for information such as the courses offered, the skills they will acquire, and the potential career paths these majors can lead to.
- Encourage students to explore both local and national institutions.

**4. Group Discussion (5 minutes)**

- Discuss findings on different cybersecurity majors. Encourage students to talk about which majors they find most interesting and why.
- Highlight the career opportunities and the potential increase in lifetime earnings that can result from pursuing a degree in cybersecurity.

**5. Reflective Writing (5 minutes)**

- Ask students to write a short paragraph on how choosing a cybersecurity major could impact their future career and earnings. Encourage them to consider their personal interests and career aspirations.

**6. Conclusion and Sharing (2 minutes)**

- Invite a few students to share their reflections.
- Conclude by emphasizing the importance of thoughtful decision-making when choosing a college major, especially in a field as dynamic and lucrative as cybersecurity.

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**MODIFIED TASK FOR MULTIMEDIA DELIVERABLES**

Incorporating multimedia deliverables can significantly enhance student engagement and learning. These modifications will make the exercise more interactive and help students develop their research, technological, and presentation skills. Creating multimedia content like infographics and videos can be particularly appealing to students, making the learning process more engaging and effective.

1. Following the group discussion on cybersecurity majors, students will create a short video or a series of Canva images.
2. The video or images should encapsulate the information on different cybersecurity majors, the skills and career paths associated with them, and the potential impact on lifetime earnings.
3. For this task, students can use video editing tools like iMovie, Adobe Premiere Rush, or Canva's video feature.
4. **Collaboration and Role Assignment:** Encourage students to work in groups, assigning roles such as researcher, designer, scriptwriter, and presenter to distribute tasks evenly.
5. **Creativity and Content:** Emphasize the importance of the information's aesthetic appeal and accuracy. The deliverables should be engaging as well as informative.
6. **Presentation and Feedback:** Allocate time for students to present their multimedia deliverables to the class. A feedback session can follow this presentation to encourage peer learning.
7. **Technical Support:** Provide guidance on using the chosen multimedia tools and ensure students can access the necessary resources.

## ACTIVITY 5 - CYBERSECURITY CERTIFICATION

Certifications play a crucial role in the Information Technology fields, including cybersecurity. With many certifications offered, students need to understand the requirements, career progression, and time, effort, and monetary investment involved. This activity is designed to help students to meaningfully engage their constituents to help them navigate the complex world of cybersecurity certifications.

### OBJECTIVE

The objective of this concise 15-minute activity is to provide students with time to discover the nuances of the cybersecurity certifications, enabling them to grasp the complexities, main categories, and the significance of cybersecurity certifications for student career paths.

### RESOURCES NEEDED

- Cybersecurity Certification Map: <https://pauljerimy.com/security-certification-roadmap/>
- Cybersecurity Certification Mind Map: <https://www.cyberseek.org/certifications.html>
- Internet access for research purposes.
- Pen and paper or digital note-taking tools.

### OUTCOMES

- Understanding the categorization of cybersecurity certifications.
- Recognizing the importance of certifications in various cybersecurity domains.
- Familiarity with the hierarchy and differentiation between vendor-specific and vendor-neutral certifications.
- Gaining insight into potential career trajectories associated with different certification tracks.

### ACTIVITY STRUCTURE

#### INTRODUCTION (2 MINUTES)

- Briefly introduce the cybersecurity certifications and their significance in guiding students toward cybersecurity career paths.

**CERTIFICATION RESEARCH (10 MINUTES)**

Certification	Security +	AWS Certified Security Specialist	CISSP
Career Level			
Career Trajectory (i.e. jobs holders can seek)			
NIST Specialty Area			
Certification Body			
Vendors Neutral/Specific			
Exam Domains/Topics			
Years of Experience			
Recommended/Required Experience			

**REFLECTION (3 MINUTES)**

- Allow participants to ask brief questions or share quick insights. Encourage engagement to address any immediate queries or concerns.

**CONCLUSION**

The cybersecurity certification activity aims to provide students with a better understanding of cybersecurity certifications word. It highlights the complexities of the certification structure, outlines the certification categories, and emphasizes the importance of certifications in guiding students towards successful careers in cybersecurity.

## ACTIVITY 6 - EXPLORING CYBERSECURITY SCHOLARSHIP OPPORTUNITIES

### EXPLORING CYBERSECURITY SCHOLARSHIP OPPORTUNITIES

Cybersecurity scholarships offer crucial support for students interested in pursuing careers in this growing field. These scholarships can provide financial assistance to help cover the cost of tuition, books, and other educational expenses. In this worksheet, you will explore various cybersecurity scholarship opportunities and identify those that best align with academic goals and career aspirations.

Starting the scholarship search early is key. The earlier students begin their scholarship search, the more prepared they will be to navigate application deadlines and maximize their chances of securing financial support.

#### OBJECTIVE:

To research and understand different cybersecurity scholarship programs, focusing on their benefits, eligibility criteria, and application processes.

#### EXPECTED OUTCOMES

- Students will understand various cybersecurity scholarships, including eligibility, application processes, and benefits.
- Students will learn to choose scholarships that align with their academic and career goals, focusing on both financial aid and educational support.
- Students will improve their ability to research and evaluate information, developing skills in source credibility assessment and opportunity comparison.
- Students will begin preparing scholarship applications, enhancing writing and communication skills through essay writing and resume updating.
- Students will strategize their educational journey, planning how scholarships can support their studies from undergraduate to postgraduate levels.

#### SCHOLARSHIP RESOURCES

Please be aware that the cybersecurity scholarships listed in this worksheet represent just a selection of the many opportunities available in this field. We encourage students to continue exploring beyond these options to uncover additional scholarships that may suit their needs. Furthermore, scholarship information, including website links, can change over time. We recommend verifying the details directly from the official scholarship provider or institution to ensure you have the most current information.

1. National Science Foundation CyberCorps Scholarship for Service (SFS): <https://sfs.opm.gov/>
2. DoD Cyber Scholarship Program (DoD CySP): <https://public.cyber.mil/wid/cdp/dcysp/>



3. Cybersecurity Scholarship Guide: <https://cybersecurityguide.org/resources/scholarship-guide/>
4. CIA Undergraduate Scholarship Program: <https://www.cia.gov/careers/student-programs/undergraduate-scholarship-program/>
5. Louis Stokes Educational Scholarship (STOKES) program (NSA): <https://www.intelligencecareers.gov/nsa/students-and-internships>
6. ISC2 Scholarship – Undergraduate Scholarships: <https://www.iamcybersafe.org/s/>
7. Cisco Snort Scholarship: <https://snort.org/community/scholarship>
8. Carnegie Mellon University Heinz College American Security Professional Fellowships: <https://www.heinz.cmu.edu/programs/information-security-policy-management-master/financial-aid-and-scholarships-msispm>
9. Edison Scholars Program: <https://www.edison.com/community/edison-scholars>
10. Microsoft Last Mile Scholarship: <https://www.lastmile-ed.org/apply>

## PART 1: RESEARCH SCHOLARSHIP OPPORTUNITIES

### RESEARCH PHASE

Students should use the provided resources to research cybersecurity scholarship programs. Focus on key details such as eligibility criteria, application process, scholarship benefits, and any obligations or expectations attached to the scholarship. Their findings will be summarized in a Scholarship Comparison Table.

- **Scholarship Name:** List the names of various cybersecurity scholarships.
- **Sponsoring Organization:** Indicate the organization or institution offering the scholarship.
- **Eligibility Criteria:** Briefly describe the key eligibility requirements for each scholarship.
- **Application Deadline:** Provide the deadline for application submissions.
- **Scholarship Value:** State the amount or type of financial support provided (e.g., tuition coverage, stipends).
- **Duration:** Mention the duration for which the scholarship is awarded (e.g., one year, throughout the degree program).
- **Special Requirements:** Note any unique requirements or commitments, such as internships, service agreements, or specific study areas.
- **Application Process Overview:** Give a brief overview of the application steps (e.g., essay submission, recommendation letters).

## PART 2: ANALYSIS AND COMPARISON

### COMPLETE TABLE

Using the information gathered during the research phase, complete the table for at least three cybersecurity scholarship opportunities.

### DISCUSSION

Students will discuss their findings, highlighting similarities and differences between the scholarships.

**Cybersecurity Scholarship Comparison Table**

Scholarship Name	Sponsoring Organization	Eligibility Criteria	Application Deadline	Scholarship Value	Duration	Special Requirements	Application Process Overview

## PART 3: PERSONAL REFLECTION

1. **Reflection:** Students will reflect on which scholarship programs align with their career goals in cybersecurity and how important financial and other support from these scholarships can help in their educational and career development.
2. **Presentation:** Optionally, students can present their findings and reflections to you during a counseling session or to the class if this exercise is used for an assignment.

## FURTHER EXPLORATION

- **Explore Additional Scholarships:** Explore additional scholarship opportunities, whether at CAE schools they are considering attending, through government agencies, or extra-curricular activities.
- **Essay Writing Prompt:** Many scholarships require essays. Prepare essays for prompts like "Why are you interested in cybersecurity?" or "How will this scholarship help you achieve your career goals in cybersecurity?"
- **Interview Simulation:** Practice answering common scholarship interview questions. Counselors can conduct mock interviews to prepare students.
- **Application Checklist:** Create a checklist for students to track their progress in the scholarship application process, including gathering documents, writing essays, and submitting applications.
- **Reflection and Goal Setting:** Ask students to reflect on their career goals in cybersecurity and how the scholarships align with these goals. Encourage them to set short-term and long-term objectives.

## ACTIVITY 7 - CYBERSECURITY CAREER PATHWAYS

Research suggests students prefer well-defined career pathways. This activity is designed to guide students to meaningful engagement of their constituents about the cybersecurity career pathways in the student's state, and/or geographical area.

### OBJECTIVE

The primary objective of this activity is to equip students with a comprehensive understanding of cybersecurity career pathways available to students through Advanced Placement (AP), dual credit, and dual enrollment programs. The goal is to enable advisors and counselors to effectively guide students in choosing appropriate pathways aligned with their educational aspirations and career goals in the cybersecurity field.

### RESOURCES NEEDED

- Cybersecurity career pathway guides or resources.
- Access to educational institution catalogs offering cybersecurity programs.
- Internet access for research purposes.
- Pen and paper or digital note-taking tools.

### OUTCOMES

- Understanding the current cybersecurity career pathways.
- Recognizing the importance of well-defined cybersecurity career pathways.
- Familiarity with the current offerings of dual credit, dual enrollment, and AP classes at the state and/or geographical area.
- Gaining insight into potential engagement with local/state stakeholders about cybersecurity career pathways.

### ACTIVITY STRUCTURE

#### INTRODUCTION TO CYBERSECURITY CAREER PATHWAYS (2 MINUTES)

- Provide an overview of the diverse pathways available in cybersecurity, emphasizing the significance of AP, dual credit, and dual enrollment programs in shaping students' educational journeys.

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**UNDERSTANDING AP COURSES IN CYBERSECURITY (2 MINUTES)**

- Explain the availability and content of AP courses in cybersecurity at your state, highlighting the benefits of students earning college credit while in high school.

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**EXPLORING DUAL CREDIT PROGRAMS (2 MINUTES)**

- Discuss the concept of dual credit programs where high school students take college-level cybersecurity courses, earning both high school and college credits simultaneously.

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**DUAL ENROLLMENT OPPORTUNITIES (2 MINUTES)**

- Describe dual enrollment programs that enable high school students to take college-level courses at a partnering institution, providing an early start to a cybersecurity-focused higher education path.

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**COMPARISON OF PATHWAY OPTIONS (3 MINUTES)**

- Compare and contrast the advantages and considerations of AP, dual credit, and dual enrollment programs in cybersecurity, considering factors like course availability, credit transferability, and student readiness.

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**ALIGNING PATHWAYS WITH CAREER GOALS (2 MINUTES)**

- Help understand the importance of aligning these pathways with students' career aspirations in the cybersecurity field. Discuss the skills and knowledge gained through each pathway and their relevance to specific career roles.

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**REFLECTION (2 MINUTE)**

- Conclude the session with a brief Q&A session to address any remaining queries and summarize key takeaways about the various cybersecurity career pathways available through AP, dual credit, and dual enrollment programs.

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**CONCLUSION**

This activity aims to empower students with the knowledge and tools necessary to guide students effectively through the multitude of cybersecurity career pathways offered via AP, dual credit, and dual enrollment programs. Understanding these pathways will enable advisors to provide informed advice and support students in making well-informed decisions regarding their academic and career pursuits in cybersecurity.

## ACTIVITY 8 - EXPLORING CYBERSECURITY EXTRACURRICULAR ACTIVITIES

### EXPLORING CYBERSECURITY EXTRACURRICULAR ACTIVITIES

Extracurricular activities can help generate interest in cybersecurity, even for students who haven't previously considered it as a career path. Activities such as student-run clubs, competitions, camps, and programs that allow students to explore the field of cybersecurity at their own pace can help them determine whether pursuing a path in cybersecurity aligns with their personal and career interests.

Extending beyond the traditional classroom, these activities offer practical and engaging experiences that demystify the technical aspects of cybersecurity, enabling students to discover their potential interest in the field and develop essential skills. These activities can also encourage a broader range of students, especially girls and underrepresented populations, to explore and potentially consider a career in cybersecurity.

### OBJECTIVE

To familiarize students with the range of extracurricular activities available in the field of cybersecurity, enabling them to effectively enhance their cybersecurity understanding, skills and experiences outside the classroom.

### EXPECTED OUTCOMES

- Students will gain knowledge and understanding of cybersecurity extracurricular activities.
- Students will recognize the significance of participating in programs beyond the classroom.
- Students will be equipped to make informed choices about which activities align with their interests and goals.

### EXTRACURRICULAR RESOURCES

Please be aware that the extracurricular resources listed in this worksheet represent just a selection of the many activities available in this field. We encourage students to continue exploring beyond these options to uncover additional activities that may suit their needs.

1. GenCyber: <https://www.gen-cyber.com/>
2. CyberPatriot: <https://www.uscyberpatriot.org>
3. CyberStart America: <https://cyberstart.com/>
4. Cisco Skills for All: <https://skillsforall.com/>
5. CSAW (see-SAW) Capture the Flag: <https://www.csaw.io/>
6. National Cyber League (NCL): <https://nationalcyberleague.org>
7. MITRE Cyber Academy: <https://mitrecyberacademy.org>

8. NSA Codebreaker Challenge: <https://nsa-codebreaker.org/home>
9. picoCTF: <https://picoctf.com/>

## PART 1: RESEARCH EXTRACURRICULAR ACTIVITIES

### RESEARCH PHASE:

Students should use the provided resources to research cybersecurity extracurricular activities. Focus on key details such as target audience, key focus areas, skill levels, format, unique features such as scholarships, and competition dates.

- **Program:** This column should list the name of the cybersecurity extracurricular program.
- **Target Audience:** Indicate the primary audience for each program, such as high school students, college students, or both.
- **Key Focus Areas:** Outline the main areas of focus or topics covered in each program, such as cryptography, programming, web security, cyber defense, etc.
- **Skill Level:** Specify the required or recommended skill level for participants (beginner, intermediate, advanced).
- **Participation Format:** Describe how the program is structured in terms of participation — whether it is team-based, individual, or offers both formats.
- **Unique Features:** Highlight any distinctive features or benefits of the program, such as national competitions, real-world scenario training, scholarships, or special recognitions. This helps in distinguishing each program from others.
- **Important Dates:** Key dates for the program / competition, including start and end dates, registration deadlines, or dates of specific competitions / events.

## PART 2: ANALYSIS AND COMPARISON

### COMPLETE TABLE

Using the information gathered during the research phase, complete the table for at least three cybersecurity extracurricular activities.

### DISCUSSION

Students will discuss their findings, highlighting similarities and differences between the activities.

### Cybersecurity Extracurricular Activities Comparison

PROGRAM	TARGET AUDIENCE	KEY FOCUS AREAS	SKILL LEVEL	PARTICIPATION FORMAT	UNIQUE FEATURES	IMPORTANT DATES
CyberPatriot	High School, College	Cyber Defense, Teamwork	Beginner to Intermediate	Team	National competition, real-world scenarios	Online schedule: <a href="https://www.uscyberpatriot.org/competition/current-competition/competition-schedule">https://www.uscyberpatriot.org/competition/current-competition/competition-schedule</a>

### PART 3: PERSONAL REFLECTION

1. **Reflection:** Students will reflect on which activities programs align with their cybersecurity academic and career goals in cybersecurity.
2. **Discussion:** Ask students the following questions.
  - What skills can you develop by participating in this cybersecurity program?
  - How can you apply the knowledge gained from this program in your future studies or career?
  - What potential skills can be gained from participating in these cybersecurity programs?
  - How might involvement in a cybersecurity extracurricular activity enhance your understanding of the field?
  - How can these extracurricular programs contribute to your personal and professional development?
  - What opportunities for teamwork and collaboration are available in these programs, and how might they benefit you?
  - How could engaging in these activities provide real-world experience and practical application of cybersecurity concepts?
  - What are the potential networking opportunities within these programs, and how can they aid in your career progression?



- What role could these extracurricular experiences play in enhancing your resume or college application?
  - How can participation in these activities help in building confidence and technical expertise in cybersecurity for you?
3. **Presentation:** Optionally, students can present their findings and reflections to you during a counseling session or to the class if this exercise is used for an assignment.

## FURTHER EXPLORATION

- **Explore Additional Activities:** Continue to explore and participate in extracurricular activities focused on cybersecurity. Join an online forum, attend webinars, or participate in local cybersecurity events.
- **Start a Cybersecurity Club:** Consider initiating a cybersecurity club at your school or in your community. The club could host guest speakers, organize workshops, and provide a space for students to share knowledge and work on collaborative projects.
- **Document Participation:** Document their participation in extracurricular cybersecurity activities on their resumes and college applications.

