

Justification Memo

To: Greg Heileman, Vice Provost for Undergraduate Education; Curricular Affairs
From: Josh Pauli, CIIO Department Head
Date: June 22, 2023
Re: Creation of Cyber Operations Minor
CC: Gary Packard, Dean, CAST; Linda Denno, Associate Dean, CAST

This memo serves as a justification for the creation of a Cyber Operations Minor, effective Fall 2024. CAST already has a successful Cyber Operations major. First admit term is Fall 2024.

Please see required curriculum below:

Core Courses (6 courses, 18 credits): CYBV 301, 326, 329, 385, 400, 435

Total: 18 credits

Campuses & Locations: Main, AZ Online



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Dr. Linda Denno
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New Academic Program – Minor ([Undergraduate](#) or [Graduate](#))
CURRICULAR INFORMATION

I. MINOR DESCRIPTION: Students learn to defend systems and networks as well as how to identify and apply techniques used in the collection and analysis of cyber-based evidence. Students benefit from a state-of-the-art virtual learning environment (VLE) called Cyberapolis that allows students to learn about cybersecurity both offensively and defensively.

CAMPUS/LOCATION: Main, AZ Online

II. JUSTIFICATION/NEED FOR THE MINOR: Minor with same name as an existing major (Cyber Operations).

III. MINOR REQUIREMENTS:

Undergraduate Minor: (if this table does not apply, please delete).

Minimum total units required	18
Minimum upper-division units required	18
List any special requirements to declare/admission to this minor (completion of specific coursework, minimum GPA, interview, application, etc.)	None
Minor requirements. List all required minor requirements including core and electives. Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.	Required coursework. <u>Core:</u> Complete 6 courses (18 credits): CYBV 301, 326, 329, 385, 400, 435
Internship, practicum, applied course requirements (Yes/No). If yes, provide description.	No
Additional requirements (provide description)	No
Any double-dipping restrictions (Yes/No)? If yes, provide description.	No

- V. **Learning Outcomes** - Complete this table as a summary of the learning outcomes from your assessment plan, using these examples as a model. If you need assistance completing this table, please see the resources at the [University Center for Assessment, Teaching and Technology](#).

Learning Outcome #1: Law, Ethics, & Policy; Describe and explain the relationship between cyber ethics and law; criminal penalties related to unethical hacking; and apply the notion of Gray Areas to articulate where the law has not yet caught up to technology innovation.

Learning Outcome #2: Defensive Cyber Operations; Describe, evaluate, and operate a defensive network architecture employing multiple layers of protection using technologies appropriate to meet mission security goals.

Learning Outcome #3: Security Principles & Vulnerabilities; Demonstrate and explain the various types of vulnerabilities and their underlying causes; how security principles interrelate and are typically employed to achieve assured solutions; and how failures in fundamental security design principles can lead to system vulnerabilities that can be exploited as part of an offensive cyber operation.

VI. REQUIRED SIGNATURES

Program Director/Main Proposer (print name and title): Josh Pauli, Ph.D., Department Head, CIO

Program Director/Main Proposer signature:

Date:



Department Head (print name and title): Josh Pauli, Ph.D., Department Head, CIO

Department Head's signature:

Date:



Assistant Dean (print name): Nicole Kontak, Ph.D.

Associate/Assistant Dean's signature:

Date:



Nicole Kontak (Jun 26, 2023 11:35 PDT)

Academic Associate Dean (print name): Linda Denno, Ph.D.

Dean's signature:

Date:



For use by Curricular Affairs:

Undergraduate:

Committee	Approval date
APS	
Undergraduate Council	
Undergraduate College Academic Administrators Council	
Faculty Senate	

Undergraduate:

Committee	Approval date
APS	
Undergraduate Council	
Undergraduate College Academic Administrators Council	
Faculty Senate	














Cyber Ops Minor --program approval

Final Audit Report

2023-06-26

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