



**COLORADO**

Department of  
Higher Education

# Report on the Implementation of SB18-086

Annual Cybersecurity Report



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**2025**

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The Colorado Department of Higher Education  
Report to the Joint Budget Committee, the House Business Affairs and Labor Committee, The Business,  
Labor, and Technology Committee of the Senate, the House and Senate Education Committees.

Statute: 24-33.5-1905 (4)

The Colorado Department of Higher Education (DHE), under its own authority and through the Colorado Commission on Higher Education (CCHE), oversees and coordinates policy for 31 public institutions of higher education (including community colleges, independent local district colleges and local area technical colleges) and authorizes and regulates private colleges, universities and occupational schools.

**Mission** – We support students, advocate and develop policies to maximize higher education opportunities for all.

**Vision** – All Coloradans will have an education beyond high school to pursue their dreams and improve our communities.



Prepared and submitted by the Colorado Department of Higher Education  
under the Executive Leadership of Dr. Angie Paccione  
Pursuant to the statutory authority of CRS 24-33.5-1905 (4)

October 2025

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# Introduction

C.R.S. 24-33.5-1905(4) states that the Department of Higher Education (CDHE, the Department) shall allocate funding from the General Assembly to institutions of higher education participating in activities related to cybersecurity. C.R.S 24-33.5-1905 (4)(c) mandates that the department must annually prepare a report detailing the progress made towards critical state cybersecurity goals at institutions of higher education that received an appropriation through SB 18-086, *“Cyber Coding Cryptology for State Records.”*

Per statute, the report must include:

1. The number of faculty or adjunct faculty hired at each institution of higher education from the funding;
2. The number of student internships created with the funding at each institution of higher education;
3. The number of degrees or certificates that have been awarded at each institution of higher education in connection with the funding;
4. The number of scholarships awarded at each institution in connection with the funding;
5. The number of presentations and seminars given on cybersecurity by each institution of higher education; and
6. The amount of all other money that has been raised to match the state investment, which may include tuition, fees, federal funds, and industry donations.

Six governing boards were awarded funding in fiscal year 2024-2025. The following report summarizes their spending and outcomes.

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## Combined Institutional Results

The following tables consolidate the institutional submissions into three individual tables. A full breakdown of each institution's submission will follow.

Table 1 details the actual appropriations received and the total amount expended. Table 2 lists the total amount of scholarship funding received by institution and the total amount of scholarship funding that was spent. Table 3 summarizes the activities funded through SB18-086 for fiscal year 2025-26.

**Table 1: Combined Institutional SB18-086 Appropriations and Expenditures for Fiscal Year 2025-2026.**

	Colorado Community College System	Colorado Mesa University	Colorado State University System	Metropolitan State University of Denver	University of Colorado	Western Colorado University
SB18-086 Appropriation	\$300,000	\$300,000	\$1,200,000	\$300,000	\$2,800,000	\$200,000
Actual Amount Expended	\$300,000	\$265,000	\$1,200,000	\$340,500	\$2,800,000	\$200,000

[Note: Colorado Department of Higher Education Institutional Reports.]

**Table 2: Combined Institutional SB18-086 Scholarship Appropriations and Expenditures for Fiscal Year 2025-2026.**

	Colorado Community College System	Colorado Mesa University	Colorado State University System	Metropolitan State University of Denver	University of Colorado	Western Colorado University
Required Amount Earmarked for Scholarships	\$30,000	\$30,000	\$120,000	\$30,000	\$560,000	\$20,000
Total Amount Spent on Scholarships	\$0	\$33,000	\$560,869	\$40,500	\$689,000	\$117,000

[Colorado Department of Higher Education Institutional Reports.]

**Table 3: Combined Institutional Activity Funding for Fiscal Year 2025-2026.**

	Colorado Community College System	Colorado Mesa University	Colorado State University System	Metropolitan State University of Denver	University of Colorado	Western Colorado University
Number of Faculty and Adjunct Staff Hired	3	1.25	27	1	14	.5
Number of Internships Created	59	13	64	0	30	5
Number of Degrees and Certificates Awarded	80	14	354	110	360	2
Number of Scholarships Awarded	0	34	70	27	460	31
Number of Presentations and Seminars Given	5	13	107	0	126	1
Total Amount of all "Other" Funding Raised	\$287,000	\$0	\$1,450,000	\$0	\$1,410,167	\$128,718

[Colorado Department of Higher Education Institutional Reports.]

# Individual Governing Board Responses

The following institutional responses provide additional details on institutional activities and funds raised. Institutions used the funds received to support a wide range of public-facing activities, including hosting summer camps, presenting at conferences, and offering training for community members. Institutions also raised a significant amount of additional funds to support their work in the cybersecurity realm.

Each institution's complete response is included below. Responses may have been edited for formatting, grammar, and accessibility compliance.

## Colorado Community College System

**Table 4: Colorado Community College System**

Line	Governing Board Name	Colorado Community College System
2	Total SB 18-086 Appropriation	\$300,000
3	Actual Amount Spent on Scholarships	\$0
3.5	Total Number of Scholarships Awarded (See Note 1)	0
4	Required Allotted Amount Earmarked for Scholarships	\$30,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding (see note 2)	3
7	Number of student internships created (see note 3)	59
8	Number of degrees/certificates awarded in connection with SB 086 funding (see note 4)	80
9	Number of presentations/seminars given on cybersecurity	5
10	Amount of all other money raised to match state investment	\$287,000
11	Total Amount Expended	\$300,000

[Colorado Community College System.]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer: Note 1:** In 2025-26 PPSC will award \$30,000 in Cyber Security scholarships through Financial Aid with a focus on offering significant support that will make the most impact for Cyber Security students. Allotted scholarship monies will be awarded in \$1,250 apportionments to students to create a significant positive impact for awardees.

**Note 2:** SB18-086 funds have been used to pay the salary and benefits for 3 full-time cyber security faculty members (2 full salaries and 1 partial salary).



**Note 3:** Appropriated funds have been utilized to facilitate student connections with internship sites by planning hiring events, community partner gatherings, and travel related to building community partnerships.

**Note 4:** Completers for the cybersecurity degree and certificates since the implementation of SB18-086 appropriation funds have grown significantly. During the past academic year, the Cyber Security program had 80 total completers, 62 of which earned an Associate of Applied Science degree in Cyber Security - which represented the largest group of completers to date for the full AAS degree - while 18 were awarded certificates in Cyber Security. Full-time personnel - funded by the SB18-086 appropriation - allowed for program capacity and quality resulting in a greater number of Cyber Security completers.

**Note 5:** The PPSC Foundation awarded \$7,500 from BlueStaq for Cyber Security and Computer Networking/Internship.

## Colorado Mesa University

**Table 5: Colorado Mesa University**

Line	Governing Board Name	Colorado Mesa University
2	Total SB 18-086 Appropriation	\$300,000
3	Actual Amount Spent on Scholarships	\$33,000
3.5	Total Number of Scholarships Awarded	34
4	Required Allotted Amount Earmarked for Scholarships	\$30,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding	1.25
7	Number of student internships created	13
8	Number of degrees/certificates awarded in connection with SB 086 funding	14
9	Number of presentations/seminars given on cybersecurity	13
10	Amount of all other money raised to match state investment	\$0
11	Total Amount Expended	\$265,079

[Colorado Mesa University.]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer:** Student and faculty researchers at the Cybersecurity Center have authored 3 peer-reviewed journal articles already published and one under review. For <6>, 1 faculty has been fully supported by the fund and other faculty is given .25 supplement for his role in the cybersecurity center and creating and teaching cybersecurity certificate-related courses. For <8>, 12 professional certificates and 9 minors were awarded in Cybersecurity, with 7 students receiving both. The funding has supported faculty's travel to conferences and events to help maintain their continuous education requirements, which are mandated by CMU's Center of Academic Excellence in Cyber Defense designation by the NSA. CMU has maintained this designation for 5 years.

## Colorado State University System

**Table 6: Colorado State University System**

Line	Governing Board Name	Colorado State University System
2	Total SB 18-086 Appropriation	\$1,200,000
3	Actual Amount Spent on Scholarships	\$560,869
3.5	Total Number of Scholarships Awarded	70
4	Required Allotted Amount Earmarked for Scholarships	\$120,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding	27
7	Number of student internships created	64
8	Number of degrees/certificates awarded in connection with SB 086 funding	354
9	Number of presentations/seminars given on cybersecurity	107
10	Amount of all other money raised to match state investment	\$1,450,000
11	Total Amount Expended	\$1,200,000

[Colorado State University System]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer:** For the 2024-2025 academic year, the funds allocated to CSU under SB18-086 provided a significant impact. Both CSU Fort Collins and CSU Pueblo have achieved and continue to maintain NSA recognition as Centers of Academic Excellence in Cyber Defense education. CSU Pueblo has achieved recognition for a first-place in the National Cyber League competition among over 400 colleges and universities. Workforce development has included providing students with hands-on experience in security skills that are highly valued in government and industry, leading to enhanced job opportunity for students as well as enhanced workforce capabilities across Colorado. Interns have been placed at organizations including Raytheon, Google, Lockheed Martin, and the NSA. Cybersecurity research

supported has also been supported, driving improvements in cybersecurity technologies used in Colorado and around the world.

## Metropolitan State University of Denver (MSU-Denver)

**Table 7: Metropolitan State University of Denver**

Line	Governing Board Name	Metropolitan State University of Denver
2	Total SB 18-086 Appropriation	\$300,000
3	Actual Amount Spent on Scholarships	\$40,500
3.5	Total Number of Scholarships Awarded	27
4	Required Allotted Amount Earmarked for Scholarships	\$30,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding	1
7	Number of student internships created	0
8	Number of degrees/certificates awarded in connection with SB 086 funding	110
9	Number of presentations/seminars given on cybersecurity	0
10	Amount of all other money raised to match state investment	\$-
11	Total Amount Expended	\$300,000

[Metropolitan State University of Denver.]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer:** MSU-Denver continued funding for a full-time Cybersecurity Program Manager, a full-time in Department of Computer Information Systems, and partially funded the Director of MSU-Denver's Cybersecurity Center in the College of Aerospace, Engineering, Computer Science and Industrial Design.

### Additional Summary Submission

See next page.

**Metropolitan State University of Denver**  
**Cybersecurity-SB 18-086 Spending Summary**  
**September 2025**

**The Bachelor of Science Degree in Cyber Security**

The Bachelor of Science Degree in Cyber Security has continued to see growth in enrollment since it began Fall 2018. At the start of Fall 2025, the program has 557 majors. During the spring of 2022, the BS in Cybersecurity earned the National Center of Academic Excellence in Cyber Defense by the National Security Agency (NSA), effective until 2027. The Master of Science in Cybersecurity (CYBM) has also seen growth since it began in 2019 with 15 students. At the end of FY 25, there were 48 students enrolled in the program.

**Faculty and Staff**

The Department continued funding a full-time Cybersecurity specialist faculty in the Department of Computer Information Systems, a Cybersecurity Program Manager in the Department of Criminal Justice & Criminology and partially funded the Director of the Cybersecurity Center in the College of Aerospace,, Computer Science, Engineering and Industrial Design with SB18-086 monies that totaled \$304,376 in FY25.

**Scholarships**

MSU-Denver created a scholarship in Fall of 2018 and have allocated 10% of the annual SB18-086 awards to be distributed for scholarships. In FY 25, \$40,500 was awarded to 27 undergraduate students in the amount of \$1500 per student.

**Other areas and institutional matches**

The three departments fund a majority of part-time and full-time faculty who teach courses in the Cybersecurity Degree Programs from MSU-Denver's general fund. MSU-Denver Master's in

Cybersecurity Program awarded an additional \$11,750 to 9 graduate students from the Master's in Cybersecurity revenue profits.

The Department of Criminal Justice and Criminology provided additional professional development funds to support faculty engagement in cyber-related scholarship. Below are a few examples:

- Panel: Teaching and Research Techniques in Cyber Law and Privacy (May 2025). *Law & Society*, Chicago, IL.
- Faculty attendance at *NICE Conference & Expo* (June 2025), Denver, CO.
- Poster: Leveraging Cybersecurity Technology to Prevent PPP Loan Fraud: A Proactive Approach to White-Collar Crime (March 2025), *Academy of Criminal Justice Sciences*, Denver, CO.
- Poster: Combat White Collar Crime through Policy Development: A Case Study on Sentencing PPP Loan Fraud (November 2024), *American Society of Criminology*, San Francisco, CA.

#### **Graduate or Certificates:**

During fiscal year 25, 70 undergraduate students completed their BS in Cybersecurity and 13 students completed their MS in Cybersecurity.

## University of Colorado System

**Table 8: University of Colorado System**

Line	Governing Board Name	University of Colorado System
2	Total SB 18-086 Appropriation	\$2,800,000
3	Actual Amount Spent on Scholarships	\$689,000
3.5	Total Number of Scholarships Awarded (See Note 1)	460
4	Required Allotted Amount Earmarked for Scholarships	\$560,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding (see note 2)	14
7	Number of student internships created (see note 3)	30
8	Number of degrees/certificates awarded in connection with SB 086 funding	360
9	Number of presentations/seminars given on cybersecurity	126
10	Amount of all other money raised to match state investment	\$1,410,167
11	Total Amount Expended	\$2,800,000

[University of Colorado System]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer:** Of the \$2.8 million allocated to University of Colorado – Colorado Springs (UCCS), \$800,000 was passed on to NCC. The numbers above reflect only UCCS' portion. This is a change from last year's Annual CSI Report.

### Additional Summary Submission

See next page.



## University of Colorado, Colorado Springs (UCCS)

### Cybersecurity Initiative

### (CSI) FY25 Annual

### Report

July 1, 2025



Approved:

Dr. Lynn Vidler Provost  
University of Colorado, Colorado  
Springs 1420 Austin Bluffs  
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Colorado Springs, CO 80918

## Executive Summary

In addition to SB18-086 reporting criteria, the impact of the state's investment in the Colorado cybersecurity ecosystem, including academic and community programs, industry outreach and partnership, and filling workforce needs, cannot be understated. These efforts are critical to Colorado's support for expanding and strengthening the UCCS ties with commercial and governmental cybersecurity agencies across Colorado and to continue being a national leader in cybersecurity-related public and private sector activities. The following narrative provides more detail on these funds' comprehensive impact on UCCS efforts to engage, support, and grow cybersecurity in Colorado and beyond. In calendar year 2024, UCCS Cybersecurity Program Office hosted over 100 events and connected with over 13,000 students, industry partners, federal, state and local government agencies, K-12 programs, teachers and faculty across the Southern Colorado Cybersecurity Ecosystem.

Altogether, UCCS spent all of the \$2,000,000 FY 2024 State appropriation, shown in Table 8. NCC is submitting a *separate* report with details for the \$800,000 they received from UCCS's allocated portion of the total \$2,800,000. Additionally, nearly **\$1,410,167** in new grants and additional funds were awarded to and obtained by UCCS, in addition to the **\$6,530,394** in ongoing grants and **\$1,451,957** in completed grants. These are also reported in table 8.

Enrollment in UCCS cybersecurity programs, currently available in 5 of 6 UCCS colleges, has **grown 42.3%** since Spring of 2020 (through AY 2025) while overall enrollment at UCCS declined. UCCS is continuing to exponentially expand the cybersecurity ecosystem with initiatives, programs, research, and partnerships that are paying large dividends by enhancing cybersecurity for Colorado and the nation. In fact, UCCS was awarded the #1 spot nationally for cybersecurity outreach across all NSA-designated CAE-CD institutions, of which there are ~500 nationally. UCCS is grateful to the Colorado legislature and Governor for giving us this opportunity.

A handwritten signature in black ink, appearing to read "GMB Bliss".

Gretchen Bliss

Director for Cybersecurity Programs

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University of Colorado, Colorado Springs

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# University of Colorado Colorado Springs

UCCS has leveraged SB 18-086/CSI's \$2,000,000 in funding in 2024-2025 from the JBC to achieve the following under the broad legislation requirements:

## **Scholarship Amount – \$689,000**

- 72 College of Engineering and Applied Science (EAS) students were awarded cybersecurity scholarships totaling \$300,000
- 29 College of Business (COB) students were awarded cybersecurity scholarships totaling \$150,000
- 59 College of Public Service (COPS) students were awarded cybersecurity scholarships totaling \$55,000
- 78 College of Education (COE) students were awarded cybersecurity scholarships totaling \$50,000
- 7 Letters Arts and Sciences (LAS) students were awarded cybersecurity scholarships totaling \$26,500
- 90 Middle School students received scholarships to Summer Middle School Cybersecurity Camps totaling \$7,000, matching funds of \$18,000 in sponsorships
- 50 students were provided scholarships to obtain training to achieve the industry-standard CompTIA Security+ certification in 2 separate classes totaling \$50,000 in August and October of 2024
- 25 students were provided scholarships to obtain the industry certification CE Council Certified Ethical Hacker certification in Jan 2025 totaling \$35,000
- Cybersecurity Secure Operations Center (SoC) Analyst training to 50 UCCS Cybersecurity students providing hands-on real-world experience totaling \$12,500 across 2 semesters

## **Total Students Scholarships Awarded – 460**

- 12 graduate and 60 undergraduate Engineering and Applied Sciences (EAS) cybersecurity students
- 5 EDBA, 8 graduate and 16 undergraduate College of Business (COB) cybersecurity students
- 59 College of Public Service (COPS) undergraduate cybersecurity students
- 78 College of Education (COE) undergraduate students
- 7 Letters Arts and Sciences (LAS) undergraduate students

- 90 middle school students attended three intro and advanced week-long cybersecurity camps at UCCS - Summer 2025
- 50 undergraduate students were provided scholarships to obtain training to achieve the industry-standard CompTIA Security+ Certification in 2 separate classes in 2024
- 25 undergraduate students were provided scholarships to obtain training to achieve the industry-standard Certified Ethical Hacker Certification in Jan 2025
- Cybersecurity Secure Operations Center (SoC) Analyst training to 50 UCCS Cybersecurity students providing hands-on real-world experience in 2 classes throughout Fall 2024 and Spring 2025 semesters

**Faculty Hires** – 14 - 2 new, 12 ongoing

**College of Engineering and Applied Science (EAS) – 2 ongoing Tenure Faculty, 1 Instructor, 1 new hire Tenure Track Faculty**

- In addition to the previously hired Endowed Gallogly Cybersecurity Chair in 2021, EAS has hired 2 tenured positions and 1 instructor with CSI funds. Cybersecurity areas of focus for these faculty include cybersecurity operations and security in intelligent transportation and privacy and anonymous networks.
- The New Tenure Track Faculty's research focuses on systems security, especially embedded systems security, and has been published in top-tier publications.

**Cybersecurity Program Office (CPO) – 4 ongoing staff**

- Continues to employ the Director of Cybersecurity Programs with funding, a cybersecurity full-time grants manager, a marketing and outreach position (.5 time), and a full-time events coordinator.

**College of Business (COB) – 2 Tenure Track Faculty, 1 Teaching Professor**

- Fall 2025: one Tenure Track faculty will be incoming whose research centers on privacy resiliency
- Salary incentives were provided to a CoB instructor to plan and execute a Certified Ethical Hacker (CEH) industry certification course for 25 students in Jan 2025.

**College of Public Service (CPS) – 1 Associate Teaching Professor**

CPS funded professional development for one associate teaching professor to complete graduate-level courses in Cybercrime, Cybercriminology, and Digital Forensics. The funding and faculty development were directly used to enhance curriculum, with a special emphasis on courses in our Cybercrime/Cybersecurity focus area.

### **College of Letters, Arts and Sciences (LAS) – 1 Tenure Track Faculty and 1 Teaching Professor**

- Salary incentives were provided to the Department Chair of the Technical Communications and Information Design (TCID) program to increase the integration of cybersecurity in the TCID program.
- Salary Incentives were provided to the Director of Interdisciplinary Studies (INDS) to develop digital badging programs and internship opportunities under the interdisciplinary cybersecurity degree program
- LAS hired a Russian language faculty to start in Fall 2025 that had experience in cybersecurity. That faculty member will bring language together with their knowledge of cybersecurity to enhance the cybersecurity curriculum in LAS.
- LAS also hosted a “Cybersecurity for Seniors” workshop in Spring 2025 with 23 community attendees
- LAS hosted cybersecurity training across LAS disciplines for 25 faculty in Spring 2025 to encourage faculty to bring cybersecurity into their classrooms.

### **Student Internships Created – 30**

- UCCS cybersecurity students obtained 23 (22 EAS, 1 COB) cybersecurity internships in 2023- 2024
- UCCS EAS Blockchain research project supports 2 part-time interns and directly executes the legislative SB18-086 requirement to conduct research and development on encryption and data integrity techniques
- International Alliance of Trust Chains supported 3 part-time interns from 2023-2024. Interns conducted system administration, including installing/maintaining software on the IATC servers, doing security patches, and dealing with infrastructure issues
- 4 part-time cybersecurity interns were developers on block-chain coding
- The Space ISAC hosted 2 cybersecurity college interns for 2024- 2025, fellows that conducted strategic planning and evaluation of the cybersecurity threat intelligence platform

### **Degrees and Certificates Awarded – 366 (2024-25), 140 – degrees only (2024-25)**

#### **UCCS EAS/COB degrees – 138 graduated in 2024-25 (vs. 121 in 2023-24)**

- Bachelor's degree in Innovation (BISC-BI, BUBI/CYSM & INFS) – 2024-2025: Graduated 10 (7 EAS, 3 COB); Enrolled: 53 (38 EAS, 15 COB)
- Bachelor of Science Cybersecurity (CSCI-BS/CYBS and CSCI-BS/ASES) –2024-2025: Graduated 26; Enrolled: 157
- Bachelor of Arts Cybersecurity (CSCI-BA/CYBA) - 2024-2025: Graduated 13; Enrolled: 70

- BS in Business Emphasis Area in Cybersecurity Management (BUBS-BS CYSM & INFS); COB –2024-2025: Graduated 22; Enrolled: 141
- Master's Degree in Computer Science EAS (CSCI-MS/AMP, GMI & NA) –2024- 2025: Graduated 26; Enrolled: 75
- Master's Degree in Cybersecurity EAS (MAEG-MENG) – 2024-2025: Graduated 5; Enrolled: 23
- MBA Emphasis in Cybersecurity Management CoB (MBAD-MBA, MBAE-MBA, MBAO-MBA) – 2024-2025: Graduated 2; Enrolled 33
- Doctor of Philosophy Degree EAS (ENGR-PHD: Engineering CSC & STY, SECR-PHD: Security & Cybersecurity) – 2024-2025: Graduated 3; Enrolled 43
- Doctor of Business Administration in Cybersecurity Management CoB (EDBA- DBA) – 2024-2025: Graduated 8; Enrolled: 13
- Bachelor of Innovation in Computer Science (BICS-BI AMP, BSC, CRC, CTM, GLB) - Graduated 2024-25: 12; Enrolled: 20
- Bachelor of Science in Computer Engineering (CPEN-BS Computer Engineering) - 2024-2025: Graduated 11; Enrolled: 64

#### **The College of Public Service Degrees – 2 graduated in 2024-25**

- Criminal Justice, (CRJU-BA CYJ) - Cyber Crime & Cybersecurity Track Option 2024-2025: Graduated 2; Enrolled: 35

#### **The College of Letters, Arts and Sciences Degrees – No graduates in 2024-25**

Students in the College of Letters, Arts & Sciences have been exploring the intersection of cybersecurity and degrees in LAS, such as philosophy, mathematics, and sociology, and currently offer two undergraduate degrees. While the relative youth of LAS cyber programs mean there have not yet been any conferrals, they now have 10 enrollees in their cyber programs and degrees.

- University Studies with a Computer Security intent (UNIV-INSC) –2024- 2025 Graduated 0; Enrolled: 0
- Interdisciplinary Studies with a Cybersecurity intent (UNIX-INSC) –2024- 2025 Graduated 0; Enrolled: 0
- Bachelor of Arts Interdisciplinary Studies (INST-BA CYI) - 2024-2025 Graduated 0; Enrolled: 12

#### **UCCS Education Certificates – 226**

- Engineering and Applied Sciences Certificates – 0 (self-reported)

- These certificates aren't official plans but offer students cybersecurity-related specializations. They are options for students in the Engineering programs, though they're not tracked formally.
  - Network System Security EAS –2024-2025 Graduated 0; Enrolled 0 (students self-report; none reported)
  - Undergraduate Applied Cybersecurity Certificate EAS – 2023-2024 Graduated 0; Enrolled 0 (students self-report; non-reported)
- **College of Business Certificates – 2 Certificates Awarded in 2024-25**
  - Graduate Certificate in Cybersecurity Management COB (CYSM-CERG)– 2024-2025 - Graduated 1; Enrolled 4
  - Undergraduate Certificate in Cybersecurity Management COB (CYSM- CERU)- 2024-2025 - Graduated 2; Enrolled 6
  - Graduate Space Cybersecurity Enterprise Management (SPCE-CERG) – new in 2024-2025! – Graduated 0; Enrolled 1
- **College of Public Service Certificates – 2 (2024-25)**
  - Homeland Security and Emergency Management Leadership (GHSE- CERG) Graduate Certificate - 2024-2025 Awarded 1; Enrolled: 8
  - National Security Intelligence (GNSI-CERG) Graduate Certificate –2024- 2025 Awarded 1; Enrolled: 15
  - 32 Digital Forensic Investigators earned certificates, indicating mastery of the discipline, which is necessary to obtain credentials and qualify as an expert in court to testify about their findings.
- **UCCS Industry Certificates – 59 certificates awarded (2024-2025)**
  - Tier 1 Cybersecurity SOC Analyst Training: Two classes held, one in Fall 2024 (completed Dec. 2024) and one in Spring 2025 (completed in May 2025) resulted in the award of 32 Credly badges.
  - In August and October of 2024, two CompTIA Security+ Certification Training classes were held to help students prepare for the Sec+ Certification exam. Of 50 scholarship awardees, 23 have already passed their Sec+ Certification exam.
  - In January 2025, 25 students were awarded scholarships to attend training for the EC-Council CEH (Certified Ethical Hacker) Certification. So far, 8 students have taken the exam, and 4 students have passed it. (There are still 6 months left on the voucher remaining, including the ability to re-take the exam).
- **UCCS Cybersecurity Summer Camps: week-long boot camps to drive interest and education in cybersecurity in K-12 – 132 attendees (students and teachers)**
  - UCCS Cyber Camp for Spanish-speaking Middle School students: July 29 – Aug. 3, 2024: 16 students



- GenCyber Teacher/Student Combo Cyber Camp for High School: July 22 – 26, 2024: 10 teachers and 20 students (30 total)
- UCCS Intro Cyber Camp (bi-lingual) for Middle School Students: Two week-long camps (June 2 – 6, 2025 and June 9 – 13, 2025): Total 56 students (28 unique students attended each week)
- UCCS Advanced Cyber Camp (bi-lingual) for Middle School Students: July 21 – 25, 2025: 30 registered (plus waitlist)

### **Seminars, Presentations, and Publications on Cybersecurity – 126**

#### **College of Engineering and Applied Sciences – 39**

- **Distinguished Lectures:**
  - Lt Gen David N. Miller, Jr., Commander Space Operations Command, United States Space Force. April 3, 2025
- **Invited Talks:**
  - Dr. Robert Thomson (United States Military Academy), Understanding the Role of Cognitive Security in Future Cyber Operations, Nov 22, 2024

#### **USCYBERCOM Tech Talk - May 8, 2025**

Jose Luis Castanon Remy, Ekzhin Ear, Caleb Chang, Antonia Feffer, Shouhuai Xu. SoK: Space Infrastructures Vulnerabilities, Attacks and Defenses. IEEE 2025 Symposium on Security and Privacy, pp 1028-1046

J. Ye, Z. Li, X. Tang, D. Zou, S. Xu, W. Qiang, and H Jin. A Causal Learning Framework for Enhancing Robustness of Source Code Models. Proceedings of the ACM on Software Engineering 2 (FSE), 2641-2664

Jose Luis Castanon Remy, Caleb Chang, Ekzhin Ear, Shouhuai Xu. Space Cybersecurity Testbed: Fidelity Framework, Example Implementation, and Characterization, The NDSS 2025 Workshop on the Security of Space and Satellite Systems (SpaceSec'2025)

J. Wang, Z. Li, J. Qu, D. Zou, S. Xu, Z. Xu, Z. Wang, and H. Jin. MalPacDetector: An LLM-based Malicious NPM Package Detector. IEEE Transactions on Information Forensics and Security, accepted for publication

Jose Luis Castanon Remy, Ekzhin Ear, and Shouhuai Xu. Quantifying and Reducing System Non-Resilience: Methodology, Metrics, and Case Study. Invited Springer Book Chapter on Cyber Resilience, 2025.

E. Ear, B. Bailey, and S. Xu. Space cyber risk management: Desired properties. IEEE 2025 Conference on Cyber Security and Resilience (CSR'2025)

E. Ear, B. Bailey, and S. Xu. The notional risk scores approach to space cyber risk management. IEEE 2025 Conference on Cyber Security and Resilience (CSR'2025)

H. Zhang, J. Peng, J. Mao, and S. Xu. Repeated data breaches and executive compensation, Applied Economics Letters 32 (8), 1111-1120

B. Collins, S. Xu, and P. Brown, A Coupling Approach to Analyzing Games with Dynamic Environments, IEEE Transactions on Automatic Control, accepted for publication.

J. Peng, H. Zhang, J. Mao, and S. Xu. How do repeated data breaches affect firm policies? Applied Economics Letters 32 (1), 95-102

Theodore Tangie Longtchi, Rosana Montañez Rodriguez, Kora Gwartney, Ekzhin Ear, David P. Azari, Christopher P. Kelley, Shouhuai Xu. Quantifying Psychological Sophistication of Malicious Emails. IEEE Access 12: 187512-187535 (2024)

Keith Paarporn, Shouhuai Xu. Preventive-Reactive Defense Tradeoffs in Resource Allocation Contests. IEEE Control. Syst. Lett. 8: 2421-2426 (2024)

Theodore Tangie Longtchi, Rosana Montañez Rodriguez, Laith Al-Shawaf, Adham Atyabi, Shouhuai Xu. Internet-Based Social Engineering Psychology, Attacks, and Defenses: A Survey. Proc. IEEE 112(3): 210-246 (2024)

Theodore Tangie Longtchi, Shouhuai Xu. Characterizing the Evolution of Psychological Tactics and Techniques Exploited by Malicious Emails. The 6th International Conference on Science of Cyber Security (SciSec 2024). pp 97-117

Theodore Tangie Longtchi, Shouhuai Xu. Characterizing the Evolution of Psychological Factors Exploited by Malicious Emails. The 6th International Conference on Science of Cyber Security (SciSec 2024). pp 158-178

Eric Ficke, Raymond M. Bateman, Shouhuai Xu. AutoCRAT: Automatic Cumulative Reconstruction of Alert Trees. The 6th International Conference on Science of Cyber Security (SciSec 2024). pp 273-294

Xiaoyu Zhang, Maochao Xu, Shouhuai Xu. Smart Home Cyber Insurance Pricing. The 6th International Conference on Science of Cyber Security (SciSec 2024). pp 313-333

Logan Zeien, Caleb Chang, LTC Ekzhin Ear, and Dr. Shouhuai Xu. Characterizing Advanced Persistent Threats Through the Lens of Cyber Attack Flows. Military Cyber Affairs Journal, 2024.

Qaiser Khan, Sourav Purification, Sang-Yoon Chang, Post-Quantum Key Exchange and ID Encryption Analyses for 5G Mobile Networking, IEEE/IFIP Network Operations and Management Symposium (NOMS), 2025, Honolulu, HI, USA

Qaiser Khan, Sourav Purification, Rono Cheruiyot, Jinoh Kim, Ikkyun Kim, and Sang- Yoon Chang, Post-Quantum Digital Signature and Authentication for eSIM in 5G Mobile Networking, IEEE Silicon Valley Cybersecurity Conference (SVCC), 2025, San Francisco, CA, USA

Kelei Zhang, Amanul Islam, and Sang-Yoon Chang, Reinforcement Learning on Tor: Prioritizing Performance Compromises Anonymity, IEEE Silicon Valley Cybersecurity Conference (SVCC), 2025, San Francisco, CA, USA

Sanghyun Byun, Arijet Sarker, Sang-Yoon Chang, Jugal Kalita, Secure Aggregation for Privacy-Preserving Federated Learning in Vehicular Network, ACM Journal on Autonomous Transportation Systems, 2024

Mincheol Shin, Sang-Yoon Chang, Jonghyun Kim, Kyungmin Park, and Jinoh Kim, Trajectory-Driven Deep Learning for UAV Location Integrity Checks, IEEE ACCESS, 2024

M. A. Rahat, V. Banerjee, G. Bloom, and Y. Zhuang, "Poster Abstract: Operational Similarity in IoT Malware Development Life Cycle," in Proceedings of the 23rd ACM Conference on Embedded

Networked Sensor Systems, New York, NY, USA: Association for Computing Machinery, 2025, pp. 618–619. Accessed: Jun. 23, 2025. [Online]. Available: <https://doi.org/10.1145/3715014.3724036>

F. Mofidi, S. G. Hounsinnou, and G. Bloom, “RansomSentry: Hardware-Level Monitoring for Ransomware Protection in IoT Environments,” presented at the 2025 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops), IEEE Computer Society, Mar. 2025, pp. 404–409. doi: 10.1109/PerComWorkshops65533.2025.00099.

F. Mofidi, S. G. Hounsinnou, and G. Bloom, “CrossSentry: A Cross-Layer Approach to Ransomware Detection in IoT,” in 2025 13th International Symposium on Digital Forensics and Security (ISDFS), Apr. 2025, pp. 1–6. doi: 10.1109/ISDFS65363.2025.11012041.

O. Ikumapayi, P. Agbaje, Y. Zhuang, H. Olufowobi, and G. Bloom, “Deadline-Based Class Assignment for Time-Sensitive Network Frame Preemption,” in 2024 IEEE International Conference on Industrial Technology (ICIT), Mar. 2024, pp. 1–8. doi: 10.1109/ICIT58233.2024.10541010.

C. D. Hendrix and G. Bloom, “Quantized Constant Time Headway Policy for Vehicle Platoons,” in 2024 IEEE 27th International Conference on Intelligent Transportation Systems (ITSC), Sep. 2024, pp. 2936–2941. doi: 10.1109/ITSC58415.2024.10919874.

C. Hendrix and G. Bloom, “Resiliency of Vehicle Platoon Network Topologies under Physical Attack,” in IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, Nov. 2024, pp. 1–6. doi: 10.1109/IECON55916.2024.10905419.

U. Ezeobi, S. Hounsinnou, H. Olufowobi, Y. Zhuang, and G. Bloom, “MCFICS: Model- based Coverage-guided Fuzzing for Industrial Control System Protocol Implementations,” in IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society, Nov. 2024, pp. 1–6. doi: 10.1109/IECON55916.2024.10905724.

**Scholarship for Service students (SFS) – 6 Publications, 4 Conference Presentations**

Amanul Islam, Nazmus Sakib, Kelei Zhang, Simeon Wuthier, Sang-Yoon Chang, Network Fingerprinting Using Machine Learning for Anonymous Networking Detection in Cryptocurrency, IEEE Consumer Communications & Networking Conference (CCNC), 2025, Las Vegas, NV, USA

Sang-Yoon Chang, Nazmus Sakib, Simeon Wuthier, Keith Paarporn, Analyzing and Modeling Connection Impact on Distributed Consensus in Cryptocurrency Blockchain, IEEE/IFIP Network Operations and Management Symposium (NOMS), 2025, Honolulu, HI, USA

Nazmus Sakib, Simeon Wuthier, Kelei Zhang, Xiaobo Zhou, Sang-Yoon Chang, From Slow Propagation to Partition: Analyzing Bitcoin Over Anonymous Routing, IEEE International Conference on Blockchain and Cryptocurrency (ICBC), 2024, Dublin, Ireland

Sang-Yoon Chang, Arijet Sarker, Simeon Wuthier, Jinoh Kim, Jonghyun Kim, Xiaobo Zhou, Base Station Gateway to Secure User Channel Access at the First Hop Edge, Elsevier Computer Networks, 2024

Hsiang-Jen Hong, Sang-Yoon Chang, Wenjun Fan, Simeon Wuthier, and Xiaobo Zhou, Secure and Efficient Authentication Using Linkage for Permissionless Bitcoin Network, Elsevier Computer Networks, 2024

Manohar Raavi, Simeon Wuthier, Sang-Yoon Chang, Securing Post-Quantum DNSSEC Against Fragmentation Mis-Association Threat, IEEE International Conference on Communications (ICC), 2024, Denver, CO, USA

### **College of Business (COB) Publications/Presentations – 12**

Johnson Akse, T. J., (Author & Presenter), Lineberry, L., (Author & Presenter), CAE CoP New and Early Career Faculty, "Extracurricular Cyber Activities," National Centers of Academic Excellence (NSA), Virtual. (November 22, 2024).

Chesley, B., (Author & Presenter), Johnson Akse, T. J., (Author), Sellers, J. J., (Author & Presenter), 75th International Astronautical Congress, "Start with the Right Requirements: A First-Principles Approach for Cyber Secure Space Missions," International Astronautical Federation, Milan, Italy. (October 14, 2024).

Johnson Akse, T. J., (Presenter), CAE CoP New and Early Career Faculty, "Infrastructure and Computer Networking," National Centers of Academic Excellence (NSA), Virtual. (February 16, 2024).

Kocsis, D., Shepherd, M. M., Segal, D. L. (2025). Cyber Hygiene Training: Using a Salesforce Developer Module to Improve Student Online Behaviors. Journal of Information Systems Education, 36(2).

Zhang, h., Peng, J., Mao, j., Xu, S. (2024). Repeated data breaches and executive compensation. Applied Economics Letters.

CAE CoP New and Early Career Faculty: Extracurricular Cyber Activities - 11/22/24

CyberSlam: Learn to Play Cyber Threat Defender! - 10/11/2024 – T Johnson Akse

2024 State of UCCS Community Update - 11/14/2024 – T Johnson Akse

SCI Training Day: Space Domain Cybersecurity - 9/24/2024 – T Johnson Akse

75th International Astronautical Congress: Start with the Right Requirements: A

First-Principles Approach for Cyber Secure Space Missions - 10/14/2024 – T. Johnson Akse

College Board Career Kickstart AP Cybersecurity Advisory Board - 10/1/2023 – present - T Johnson Akse

College Board CK AP Cybersecurity Facilitator - 2/2024 – present - T Johnson Akse

### **Cybersecurity Program Office (CPO) – 68 presentations**

UCCS CPO (Cybersecurity Programs Office) presented at various cybersecurity education and research conferences and events at both the national and international conferences to include the NICE Conference, Women in Cybersecurity (WiCyS) Conference, and National Security Agency (NSA) Centers of Academic Excellence in Cybersecurity Conference

Presentations were given at to Mountain West Cybersecurity Consortium meetings, UCCS Letters, Arts and Sciences faculty cybersecurity training session, SoC training sessions, bilingual middle

school cybersecurity camps and to ISSA, AFCEA (Armed Forces Communications & Electronics Association), Small Business Development Center, 10 corporate partners, Space ISAC membership, CS Rocks K-12 conference, Cyber First Fridays, Colorado Springs K-12 schools and teachers, middle school cyber camps, Women in Cybersecurity (WiCyS) events, UCCS Cybersecurity Career Panel, NSA Centers of Academic Excellence, Cyber Education for K-12 in Colorado events, CAE Community Symposium, Cybersecurity Across Disciplines, and many other local, national, and international partners.

### **College of Public Service (COPS) - 2 publications, 1 presentation**

- Funded 2 criminal justice students to attend the American Criminal Justice Association conference in 2024 to learn more about cybercrime.
  - Quintana, K., Sutton Chubb, C., Olson, D., & Kosloski, A. (2024). Cybersecurity Skills, Knowledge and Abilities for Criminal Justice Professionals: An Exploratory Study of Practitioners' Perspectives. *Journal of Cybersecurity Education, Research and Practice*, 2024(1), 20.  
<https://digitalcommons.kennesaw.edu/jcerp/vol2024/iss1/20/>
  - Quintana, K., Sutton Chubb, C., Olson, D., & Kosloski, A. (2025). Using the Internet to Buy and Sell Drugs. In Preparation, expected submission summer 2025.
  - Quintana, K., Kosloski, A.E., Olson, D., & Chubb, C. 2024. Online Participation in Illicit Economies. Presented at the Western Criminology Conference in Cybercrime and Cyber Victimization panel.

### **Matching/additional grants –**

- **New \$1,379,167**
- **Ongoing - \$6,530,694**
- **Completed \$1,451,957**

### **Cybersecurity Program Office: \$641,054**

- **New Grants : \$40,000**
  - Boettcher Foundation \$40,000 Cybersecurity Industry Certification training for Cybersecurity Students 2024-2025 Gretchen Bliss
- **Ongoing Grants: \$339,159**
  - National Security Agency (NSA) – \$159,062, GenCyber Combination Teacher/Student Camp GenCyber Teacher Grant, 2024-2026, Gretchen Bliss, Joshua Alcorn, Terri Johnson Akse

- National Science Foundation – \$180,097 of \$100,000,000– NSF Engines Development Award for 2023 – 2025, Gretchen Bliss, Dr. Xu, and other community partners
- **Completed in FY 2024/2025: \$301,895**
  - NSA \$112,215, GenCyber Student Camp 2022 – 2024, Gretchen Bliss, Josh Alcorn
  - NSA \$149,680, GenCyber Teacher Camp 2022 – 2024, Gretchen Bliss, Josh Alcorn
  - Boettcher Foundation \$40,000 – 2024-2025, Student Industry Security + Certification courses for 50 students

**UCCS Engineering/Cybersecurity Grants: \$8,711,464**

**New grants: \$1,370,167**

- NSF via Wichita State University, \$149,887.00, ERI: ECCS: Concealing Side- Channels in Real-Time Schedulers, July 2023 – February 2026, Gedare Bloom, Yanyan Zhuang
- CICI: UCSS: ACSP4HR: Assuring Cyber Security and Privacy for Human Resilience Research: Requirements, Framework, Architecture, Mechanisms and Prototype, \$499,094, 2021-2026, Shouhuai Xu, Yanyan Zhuang, Charles Benight.
- CC\* Campus Compute: Building a Computational Cluster for Scientific Discovery, \$294,361, 2024-2026, Greg Williams, Yanyan Zhuang, Oluwatosin Oluwadare.
- CICI: RDP: Security and Privacy Policy Enforcement for Research Data Protection, \$292,141, 2023-2025, Yanyan Zhuang.
- NSF \$134,684, POSE: Phase I: Open-Source Ecosystem (OSE) for Open-Source Software Safety Pre-qualification, June 2024-May 2025, Gedare Bloom, Yanyan Zhuang

**Ongoing Grants - \$6,191,235**

- NSA \$90,521 2024 DoD Cybersecurity Scholarship Grant Kalita + Alcorn
- NSF, \$3,081,251, NSF CyberCorps Scholarship for Service (SFS), Collaborative Research: Colorado-Washington Security Scholarship Program (CWSSP), July 2019 – July 2026, Sang-Yoon Chang. Provided SFS scholarship to 20 cybersecurity students (5 PhD, 7 MS/ME, 8 BS/BI).
- VICEROY \$1,999,567, Cyber Ranger Forge: A University of Colorado System Virtual Institute for Cyber Range and Research based Advanced Training of ROTC Cadets for Next Generation Cyber Operations, July 2023 – June 2026, Shouhuai Xu, Joshua Alcorn, Sang-Yoon Chang, Keith Paarporn
- International Alliance for Strengthening Cybersecurity and Privacy in Healthcare \$120,000, 2023-2028, Shouhuai Xu
- NSF \$599,896, Career: Foundations for Real-Time System Security, July 2021 – June 2026, Gedare Bloom



- CU Next, \$300,000, Creating CU Cyber Range to Make CU Denver a National Leader in Cybersecurity Education and Workforce Development, UCCS Co-PIs: Joshua Alcorn, Jugal Kalita, and Greg Williams. CU Denver Co-PIs: H.Jafarian, J. Murdoc, and D. Sicker, 2022-2025 Shouhuai Xu

**Completed in FY 2025 – \$1,150,062**

- NSA , \$75,093 2023 DoD Cybersecurity Scholarship Grant, Kalita + Alcorn
- NSF \$180,000, Regional Innovation Hub: RISE. Technical Pillar Lead 2023- 2025, Shouhuai Xu
- NSA \$244,969, University of Colorado Colorado Springs CAE Grant August 2021 – August 2024, Gedare Bloom, Shouhuai Xu, Philip Brown
- ETRI \$440,000, Electronics and Telecommunications Research Institute or ETRI (Prime Sponsor is Institute for Information & Communication Technology or IITP from South Korea), Securing Availability and Integrity for 6G Flying Base Station Control and Communications, April 2021 – December 2024, Sang-Yoon Chang
- ETRI \$210,000, Electronics and Telecommunications Research Institute or ETRI (Prime Sponsor is Institute for Information & Communication Technology or IITP from South Korea), Trust Network Model for 6G Networking Security, July 2021 –December 2024, Sang-Yoon Chang

**In addition to the university-specific requirements, UCCS has undertaken significant work on legislation-specific technical requirements:**

The Public Safety Initiative (PSI) (within the College of Public Service (CPS)) – In support of SB 18-086 Section 4 24-33.5-1904 paragraph 2f, “Support state and federal law enforcement agencies with their responsibilities for investigating and collecting information related to cyber- based criminal and national security threats” continued to facilitate professional development education and training for 78 area law enforcement agencies across Colorado.

Criminal activity has evolved immensely over the past decade, particularly with the rise of digital assets and the growing online presence of individuals. As a result, law enforcement agencies have had to adapt to these changes. The specialized training offered by the Public Safety Initiative (PSI) is an invaluable resource in supporting this evolution, equipping officers with the tools and knowledge needed to meet modern challenges.

- Law Enforcement Investigators received cybercrime training, and three agencies received hardware and software to enhance their cybercrime investigative abilities.
- 64 Digital Forensic Investigators earned certificates, indicating mastery of the discipline, which is necessary to obtain credentials and qualify as an expert in court to testify about their digital forensics findings.
- PSI Support to Law Enforcement (LE): CPS delivered \$126,195 in cybercrime training and equipment to 78 area LE agencies, sponsoring 32 cybercrime investigation courses for 333 law enforcement Investigators.
- In part, due to the training opportunities provided by the Public Safety Initiative (PSI), the Denver District Attorney's Office collected evidence that assisted in what has now resulted in a 158-year sentence for Dr. Stephen Matthews, a board-certified cardiologist and serial rapist who has actively targeted women online since at least 2019, and a 448-year sentence for Robert Hawkins – believed to be the longest human trafficking sentence in U.S. history – a convicted human trafficker and pimp now classified as a sexual predator and habitual criminal.

Many of the law enforcement agencies that received support are also members of the Colorado Internet Crimes Against Children (ICAC) Task Force. The ICAC Task Force assists state and local law enforcement and prosecutorial agencies in developing effective, sustainable responses to online child victimization, including responses to Child Sexual Abuse Images (CSAM). The ICAC Program has increased law enforcement's capacity to combat technology-facilitated crimes against children at every level. In 2024, the Colorado ICAC Task Force conducted over 14,664 investigations and 3,105 forensic exams. <https://coloradoicac.com/>

- PSI provides specialized law enforcement training in cyber and electronic crime investigations – including computer and mobile device forensics, network intrusion response, and related threat investigations – enhancing the ability of law enforcement personnel to effectively prevent, investigate, and respond to cybercrimes.
- PSI provides the insight and guidance needed to adapt to and combat the rapidly evolving cybersecurity threat landscape.
- PSI delivers ongoing training and certification programs in the increasingly vital field of cybersecurity/digital forensics, equipping law enforcement professionals with the skills and tools needed to stay updated on emerging technologies and best practices.

**UCCS funded the “Blockchain Research Program” in Support of Colorado Senate Bill SB18-**

In support of the SB18-086 Section Two requirements: The largest efforts were applied to software development in order to convert to production scale versions of platforms for the publicly available SaaS APIs and shared infrastructure systems which support the usage of individual participants in State of Colorado programs. Key developments include:

- Sixteen (16) servers for consortium SaaS services configured and placed into production operation at the UCCS Datacenter. These provide Consortium SaaS first-level services for production scaling. Administrative console user servers were optimized with the service capability to support the first two Divisions for the initial rollout. A second partnership was made with University of Obuda in Budapest, Hungary in addition to the existing Pacific Northwest National Laboratory agreement. These are slated to support division 2 and division 3 Consortium SaaS instances.
- Production versions of the Supporting Registration SaaS provided for the Zero- Trust registration of Philos ledgers was implemented with pending MVP slated to be completed in Q3 FY2025.
  - Development and release of installation scripts for production systems and the administrative workflow are slated for Q3 production level release.
- Development of Smart Contract Language matured with the testing of the MVP production release of the components of the smart contract language supporting WSAM execution slated for participants for the State of Colorado programs.
- Services for system health and the overall Philos ecosystem logging was implemented and tested on independent virtual servers within the designated SaaS server bank operated at the UCCS datacenter.
  - Partnerships were initiated with Department of Energy leadership and the Philos MVP was demonstrated to audiences at several national laboratories, and in the DOE Office of Electricity.
- Program leadership submitted a proposal to DOE funding opportunity DEE-FOA- 0003223 the submission included a team of partners consisting of UCCS, Colorado State University, Innosphere, BlockFrame, Maplewell Energy, G&W Electric, Freedom Motors, Pacific Northwest National Labs and Southern California Edison.
  - A funded Supply Chain student engagement project sponsored by Lockheed Martin and implemented by workforce participants and students assessed for the pre-bill of materials engineering supply chain providing an analysis of potential opportunities where the Philos ledger may be used as a tool to implement a SaaS which could be utilized across the Military non-classified supply chain. This work may have a potential follow-on program in the foreseeable future.

- The program submitted a grant proposal to NIST to implement an Alliance for cybersecurity engineering which engaged 16 partners in the Colorado Community, including several universities, several workforce centers, non-profit community and social organizations, and multiple private sector companies. Though not accepted for funding, the partnerships provided a high level of program awareness in the community.
- Interns from the Pikes Peak Workforce, JeffCo Workforce, City of Aurora Work force, Pueblo Community College, University of California Berkley, University of Colorado, Wright State University, De Paul University, University of Texas Austin, and Colorado State University were added to the program.
- Intellectual property from the effort has resulted in 9 issued Patents with 7 Pending International Patent filings.
- Dr. Gorog presented a keynote at Digital Privacy Workshop at Carnegie Mellon University Software engineering institute in Pittsburgh, PA.
- Dr. Gorog is the current chair for the fourth year of the IEEE Digital Privacy Initiative. This initiative is funded by IEEE Future Directions. Details and can be found at [www.digitalprivacy.ieee.org](http://www.digitalprivacy.ieee.org).
- Dr. Gorog has received an appointment to the IEEE Industry Advisory Board, and the Cybersecurity Standards Advisory Board both of which perform global guidance roles for IEEE.

**BlockChain Development Community:** Volunteer members and companies provided 85% of the over 60,000 hours contributed to the effort from 2017-2025. In comparison to the \$612K invested by the State this provides an equivalent in-kind community sponsored effort of \$3.9M.

**BlockFrame Incorporated:** provided in-kind sponsorship via media outreach services, refreshments and prizes, venue cost, and professional services for weekly meetings. They also funded developer staff and legal fees for intellectual property protection. These in-kind services and sponsorship over a seven (7) year period provided matching support of approximately \$857,000.

**Community Vendors:** several vendors have provided in-kind sponsorship including management platforms, volunteer and community coordination support platforms and services, IT Managed Services, and web repositories. These in-kind services and sponsorship over a seven (7) year period provided matching support of approximately \$180,000.

## Western Colorado University

**Table 9: Western Colorado University**

Line	Governing Board Name	Western Colorado University
2	Total SB 18-086 Appropriation	\$200,000
3	Actual Amount Spent on Scholarships	\$117,000
3.5	Total Number of Scholarships Awarded	31
4	Required Allotted Amount Earmarked for Scholarships	\$20,000
5	At or Above Allotted Amount of Scholarships Earmarked?	Yes
6	Number of faculty/adjuncts hired as a result of funding	.5 FTE (\$83,000)
7	Number of student internships created	5
8	Number of degrees/certificates awarded in connection with SB 086 funding	2
9	Number of presentations/seminars given on cybersecurity	1
10	Amount of all other money raised to match state investment	\$128,718
11	Total Amount Expended	\$200,000

[Western Colorado University]

### Additional Written Response

**Question:** Please discuss any additional ways in which SB18-086 money was spent, which may not be captured in lines 6-9 and fundraising efforts as reported in FY25 and any other information you would like to be included in the report.

**Answer:** In FY25, SB18-086 funds were directed toward maximizing student success. Scholarship support grew to a record \$117,000, up from \$95,000 last year, expanding access and reducing financial barriers for students preparing for cybersecurity careers. Additional general fund investments beyond faculty salaries include providing a laptop, Security+ training, modest student engagement costs (e.g., food during hacking competitions), and travel to the NSA conference all ensuring students had the tools, credentials, and exposure to national experts needed for academic and professional growth. Western also hosted a multi-week Security+ certification training led by an external expert from Colorado Springs, offering students industry-recognized preparation in both online and in-person

formats. Program achievements further advanced student outcomes: CAE-CD recognition elevated the program's national standing, Dr. Rubin's participation in the NSA CAE Symposium strengthened academic and professional networks, and Dr. Micka's tenure secured long-term stability in the core CS curriculum that supports the InfoSec program.

## Conclusion

Fiscal Year 2025-26 was the seventh year of additional funding for cybersecurity and distributed ledger technologies. After receiving limited funding during the COVID-19 pandemic, funding was fully restored in Fiscal Year 2021-22. Funding for this program is currently ongoing through the institution's limited-purpose fee-for-service contracts. Institutions focused funding on improving their cyber facilities and offering outreach events through cyber centers, providing scholarships to students pursuing degrees and credentials related to cybersecurity, and hiring faculty and staff.

In alignment with the statutory goals of SB18-086, the Department will continue to monitor institutional progress toward strengthening Colorado's cybersecurity workforce and infrastructure.