



Oregon Cybersecurity Center of Excellence

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September 24th, 2024

OCCOE Is Operational!

Charter was signed Nov. 2023 & Operating Agreement was signed last week

Advisory Council was established and met 4 times so far this year

- Charter was adopted in Feb. 2024
- Now on a quarterly meeting schedule.

Staff and leadership in place at OSU, PSU and UO

- 18 members in total (4 full-time, 2 @ 0.3-0.5 FTE, 7 @ 0.1 – 0.2 FTE, and 3 GRAs, 2 others paid for by other funding sources).



OCCOE Updates: Workforce Development (WFD)



K-12: NW Cyber Camps:

To spark interest in cybersecurity and bring more students into a growing STEM area with well paying jobs

Summer 2023

- **4 locations** – PCC, MHCC, OSU, UO
- **6 camps** -- Girl focused camps at PCC and MHCC in addition to Co-Ed camps at the 4 locations
- **Total 120 students** --- 71 boys and 49 girls 3;2 ratio (55% White, 28% Asian, 1% Black, Multi-racial 8% and other 6% and Hispanic/Latino – 13.6; Non-Hispanic 85%)



K-12: NW Cyber Camps:

To spark interest in cybersecurity and bring more students into a growing STEM area with well paying jobs

Summer 2024

- **7 locations** – PCC, OIT, UO, Clackamas, MHCC, Chemeketa, OSU
- **9 camps** -- Girl focused camps at PCC and MHCC in addition to Co-Ed camps at the 7 locations
- **Total 147 students** --- 99 boys and 47 girls (32% above workforce average)
 - 47% White, 38% Asian, 2% Black, Multi-racial 2% and other 4%
 - Hispanic/Latino – 22%; Non-Hispanic 78%
 - Above based on responses from about 98 students.
- October Cyber Conference/Career Fair & December statewide Capture-the-Flag (CTF) event
- **3 camps funded by NSA GenCyber (~\$200K)**



K-12: NW Cyber Camps:

To spark interest in cybersecurity and bring more students into a growing STEM area with well paying jobs

Summer 2025

- Working to expand to central and eastern Oregon, and Tribal communities
- Plan to have more camps than in 2024 of [which 6 camps including a teacher camp supported by NSA GenCyber program \(\\$552K\)](#)
- Coalition model pioneered by Oregon team in 2024 has become a requirement for NSA/NSF GenCyber Applications



Student testimonials

- “It was a really good opportunity to learn about my educational options and work with others while working on fun challenges that are relevant to the future.”
- “I really enjoyed working on the challenges of using a computer in ways I hadn't before.”
- “It was fun, i got a bit deeper into what cybersecurity is and how its like”
- “It was very informative and I actually learned stuff in this camp, which isn't always the case in others.”
- “I liked that there were experts that came in to give presentations, and I also really enjoyed how interactive the camp was as a whole.”
- “I liked the food, but I also liked the people running the camp. They were very awesome and cool.”
- “The camp was amazing, was everything I though it would be and more.”



Cybersecurity Certification Scholarship Fund

Established to help students pay for cybersecurity certification exams often required for cybersecurity jobs

- OCCOE is working with Mt. Hood Community College to manage and disburse the scholarship funds
- Currently projected to support **1,476 student vouchers**
- Supporting students from 9 different community colleges
 - MHCC, Clackamas CC, Central Oregon CC, Chemeketa CC, PCC, Klamath Falls CC, Umpqua CC, Lane County CC, and Treasure Valley CC.



Undergraduate and Graduate WFD Programs

UO BS degree in Cybersecurity (started Fall 2023)

- No. of students declaring Cybersecurity Major: 36
- No. of students introduced to cybersecurity across all majors since Fall 2023: 400+
- No. of applicants to Cybersecurity major in Fall 2024: 250

OSU BS Cybersecurity Degree Option (started Fall 2023)

- No. of current students in Cybersecurity Degree Option: 394

OSU Cybersecurity Teaching Hospital (ORTSOC) Practicum Training

- No. of students in Training: 33+ (for AY 2024-25)
- No. of students trained since Fall 2022: 57
- ~50% growth in UG students from last year



Undergraduate and Graduate WFD Programs

PSU Graduate Certificate in Cybersecurity & Security Track in Masters Degree

- Graduate Certificate in Cybersecurity
- Security Track in Computer Science Masters Program

PSU Cyber Resilience Certification Program

- Congressional Directed Spending program covers the funding not allocated in the OCCOE Budget
- Target at local govt. and public entity employees
- No. of students served since 2022: 41 (Certificates Distributed; 44 Applicants)
- Doubled the # of applicants from 2022.



Testimonials from graduates of programs

- “The certificate course provided excellent resources for creating a more resilient cybersecurity culture, establishing policies, implementing additional training and security controls, and taking steps toward performing basic risk assessments.”
- “Having cybersecurity professionals with backgrounds from different sectors attend gave the class the diversity of opinions and knowledge that really hit a homerun with the overall goal of the class.”
- “I learned a lot from my peers and the class resources. Given my position as City Administrator though, I primarily learned that there's a lot going on in this realm, and managing it is important, but not something that I can do myself on top of my other jobs. It's not really a hat that I can wear because it's just too broad.”
- “From a policy perspective this class was invaluable and taught me an incredible amount.”



What participants in our non-credit workforce development programs would like to see

- “Don't stop at basic. Add in continuing courses for intermediate and advanced.”
- “More staff training and table-top exercises.”
- “Technical resources for projects or filling in skills gap and SOC services”
- “Hosting collaborative meetings, staff training and development.”
- “Tabletop exercise, simulating cyber attacks
- “More "hard skills" learned in terms of building cyber resilience.”



OCCOE Updates: Cybersecurity Services



Cybersecurity Services

ORTSOC at OSU

- Offers its clients various security services: Security Monitoring, Security Assessment, Penetration Testing, and others
- Currently serving 10 organizations spread across Oregon and PNW
 - Including: 2 small Oregon cities, 2 ESDs in eastern Oregon, 1 Oregon county, and 1 Oregon community college.
 - Targeting 20-25 organizations by Summer 2025

TeachingSOC (TSOC) being established at UO

- Expected to start serving organizations in Spring 2025

Cyber Range (location TBD)

- Negotiations in place with private sector companies for sponsoring a Cyber Range for OCCOE for use by all sites and programs. Location T



ORTSOC by the numbers

118,000,000,000

EVENTS COLLECTED BY ORTSOC SENSORS

397

SECURITY EVENTS ANALYZED BY ORTSOC STUDENTS

8

UNIQUE SECURITY INCIDENTS RESOLVED BY ORTSOC STUDENTS

17,000+

HOURS OF INSTRUCTION*

9^{CORE}, 2^{AFFILIATED}

ORTSOC FACULTY

394

STUDENTS ENROLLED IN NEW CYBERSECURITY OPTION (SO FAR...)

55

STUDENTS

(42 UNDERGRADUATE, 13 GRADUATE)

\$6M

EXTERNAL FUNDING RAISED

1ST

CYBERSECURITY TEACHING HOSPITAL IN THE US

(AND POSSIBLY THE WORLD)

* (based on number of hours per student spent in practicum; includes hours through Spring Term 2024)



Client Feedback

“The ORTSOC program provides us a knowledgeable and capable additional layer of security that is invaluable to our small jurisdiction. Having support from a regional partner, knowing someone is monitoring, and providing real-life experience to the future IT generation goes along with our jurisdiction's values. The ORTSOC partnership benefits everyone involved!”

Bates Russel
Director of Information Services
City of Tualatin



CITY OF
TUALATIN OREGON



Client Feedback

"We really appreciate ORTSOC and being a part of this program. We serve a lot of economically disadvantaged youth in the schools we support and don't have the personnel or resources to properly monitor cyber security in our IT resources. We are very grateful for ORTSOC to fill this need in Malheur County. Dave and his team have been great to work with in rolling out their services and we hope to work with them for a long time to come."

Randy Seals

Director of Technology

Malheur ESD



Student testimonials



“This is quite literally the best and most fun class I have had the pleasure of taking at OSU. Experiencing the environment of a security operations center firsthand is an incredibly effective way of teaching a wide range of skills that will help our future careers regardless of where we end up in the industry.”

“This course offered great hands-on experience that even my friends in industry thought was amazing.”

“A very hands-on class that allowed me to learn a TON more about IR and SOC operations.”

“Hands-on learning has always been the best way for me to learn and that is what this class primarily is.”

“The faculty and TAs are incredible and very fun to work with, and the amount of hard work and long hours that have gone into making this class a reality is nothing short of incredible...”



OCCOE Updates: Outreach, Partnerships, Advisory & Collaboration



OCCOE Updates

Outreach, Partnerships, Advisory, & Collaboration (continuous)

Collaboration:

- a. Oregon Governor's Office
- b. Oregon Legislature - Joint Legislative Committee on Information Management and Technology
- c. State of Oregon CISO
- d. Oregon Titan Fusion Center
- e. League of Oregon Cities (LOC)
- f. Association of Oregon Counties (AOC)
- g. Special Districts Association of Oregon (SDAO)

Partnerships:

- a. Industry partners (CISCO, SentinelOne, EC-Council, HP, FORTINET, Curtis-Wright, HiddenLayer, Ripple, SOLV, BSI, ISACA, Trellix, Netscope, Galois, SOLV Energy, Eclysium). *And growing!*
- b. CISA, FBI, NSA, DHS, US CyberCommand.
- c. LinkOregon

Outreach:

Conferences and Symposiums, Public Schools, Community Colleges, Universities.



Current Funding & Growth Requirements





Oregon Cybersecurity Center of Excellence Funding (Draft)

	Initial Fund	Current Forecast	FY25 - FY27	FY25 - FY27
Operating Funds	\$2,500,000	\$2,112,344	\$2,604,205	\$5,135,133
Workforce Development	\$1,800,000	\$2,128,333	\$1,895,018	\$4,659,727
MHCC	\$350,000	\$350,530	\$350,000	\$350,000
HECC	\$250,000	\$0	\$250,000	\$1,000,000
OIT	\$0	\$0	\$0	\$380,000
Total	\$4,900,000	\$4,591,207	\$5,099,224	\$11,524,860
	<i>Variance</i>	<i>-\$308,793</i>	<i>\$199,224</i>	<i>\$6,624,860</i>

NOTES:

A) -\$307K Variance to Initial Funding

- \$250K for Cybersecurity Grant Program still being formulated
- \$60K will be encumbered to cover committed staffing

B) +\$119K to Operating As-Is

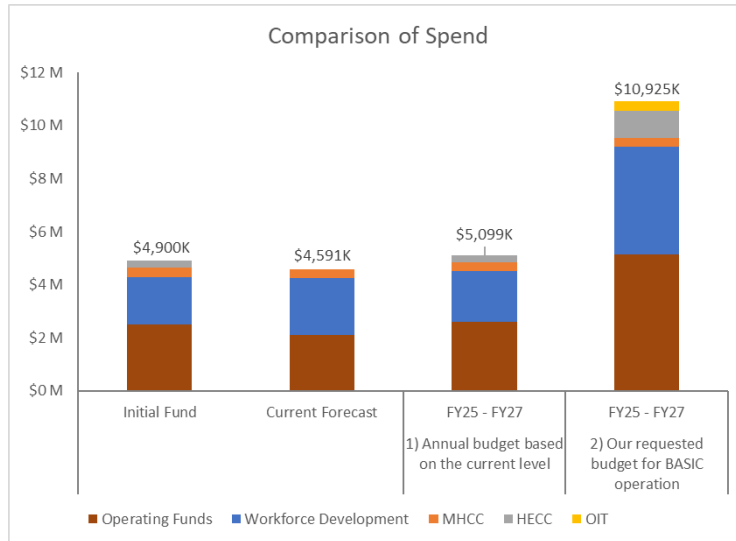
- Increase due to higher OPE than initially budgeted
- ORTSOC will not expand any further at OSU
- TSOC will have limited operation at UO
- No threat analysis or state risk assessment
- No expansion to other participating universities

C) +\$6,065K to Fulfill OCCoE's Mandate and Partner Expansion High Priority ~ \$3,586K

- Expansion to include OIT with Program, Lab & Outreach (\$380K)
- Incorporation of non-accredited Certificate Program (\$456K)
- Both ORTSOC, TSOC and Cyber Camps will be sufficiently funded (\$2M)
- Increase in the Local Governments Grants Fund (\$750K)

Medium Priority ~ \$3,034K

- Cyber Range and Engineer to provide a platform that can be used by SOCs, Camps, Participants, Table Top and Capture the Flag Exercises (\$1,350K)
- Security Analysts to perform threat analysis and state risk assessment (\$750K)
- Increase in Center staffing to drive efficiency and coordination (\$270K)
- Funding for interdisciplinary undergraduate and graduate degree (\$64K)
- SHIELD: Security Hands-on Instruction for Everyone's Learning and Development (\$500K)
- Bridge program for minority high school students to enter Cyber programs at UO (\$100K)



External Support for OCCOE Cybersecurity Programs

- \$456K federal support for PSU Certificate Program (expires September 2025)
- 1.5X leverage for ORTSOC support
- Summer Camps
 - \$140K+ support from NSA for summer 2024
 - \$552K support from NSA for summer 2025
 - 2X leverage



New/Major OCCoE projects that are NOT funded by the state (pursuing other funding sources)

- 2025 GenCyber Award for NW Cyber Camps for High School Students
 - **Grant received from NSA: \$552K**
 - Includes 5 coalition members (PSU, UO, OSU, OIT, and COCC)
- Non-accredited Certificate Program for Tribal Communities
 - Proposal submitted to the HECC Work Force Ready Program for **\$680K**
- Assessing Tribal Health Institutes for Cybersecurity Resilience
 - Proposal submitted to ODHS for **\$1,000K**
- Nurturing Inclusive Cybersecurity Education (NICE)
 - Collaborations with OSU, Chemeketa CC, ODE and 25 HS
 - Proposal submitted to the HECC FutureReady Program for **\$1.1M**
 - Exploring funding from the Ford Family Foundation to extend this program
- Assessing Resilience of Oregon Cyber infrastructure
 - Collaborations with state CISO, and OEM
 - Proposal was submitted to the ODHS and ISOC (but not funded), plan to pursue other funding opportunities
 - This is the only effort across the state that focuses on assessing resiliency of network connectivity in Oregon
- RISK Clinic: offering risk assessment to gov agencies
 - Request for **\$300K** funding to be submitted to the SLCGP to serve 10-15 agencies
 - Plan is to maintain this clinic to offer more services to gov agencies while provide training opportunities to students
- Research in developing a novel AI-based technique for detecting DDoS attacks (NSF funded)

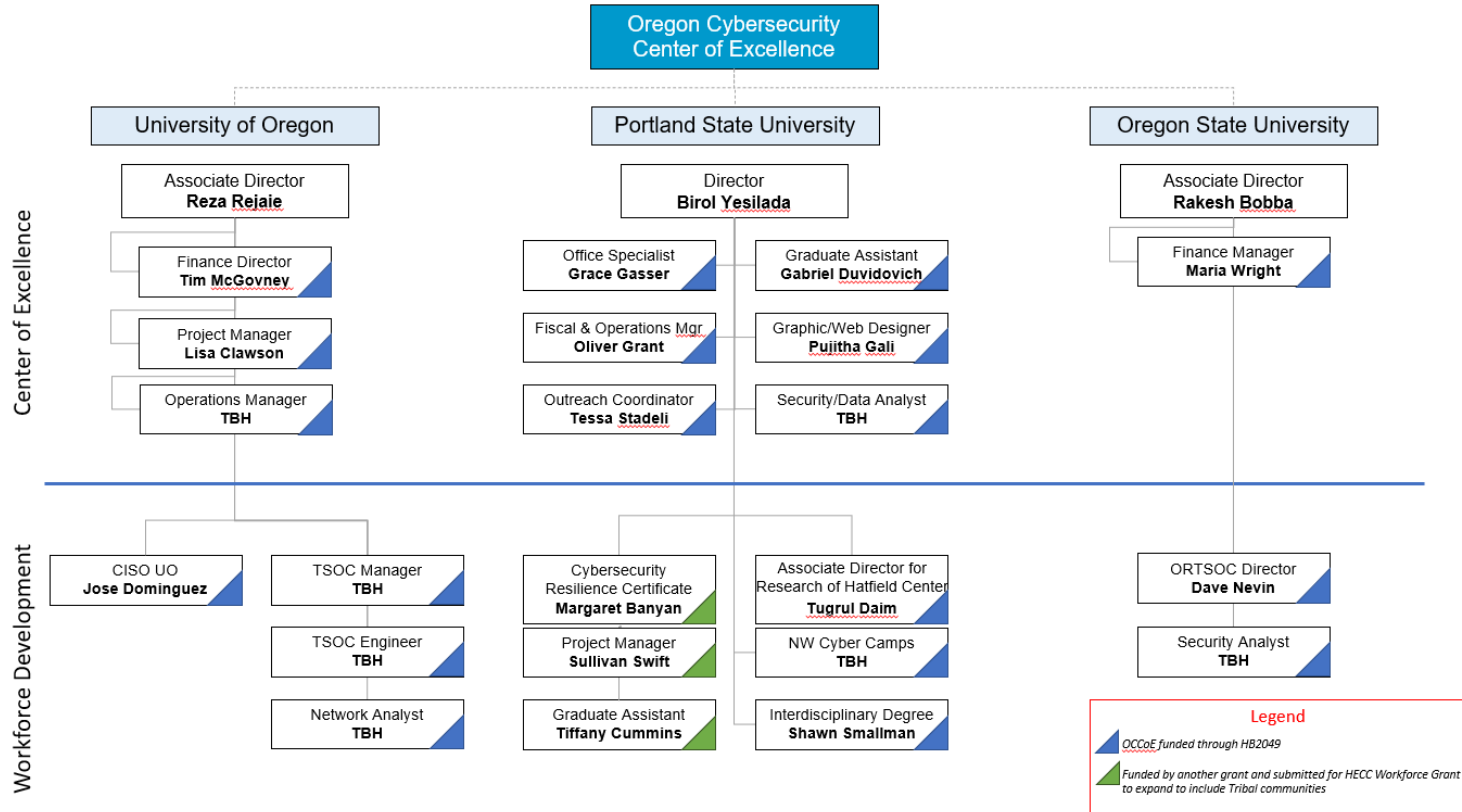




Thank You for Listening

APPENDIX

Organizational Chart





NICE NOFO Details

NW CYBER CAMP 2023





2023 Sponsors

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Portland, Oregon Chapter



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