Cybersecurity Pathways: Report on a Systems Based Approach Through Mentoring

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Cybersecurity Workforce Requirements

755,743 Total Cybersecurity Job Openings

1,112,410 Total Employed Cybersecurity Workforce

- Need an **increase of 68%**

Source: https://www.cyberseek.org/heatmap.html
(May 4, 2023)

Tools to Meet Need Workforce Requirements

- Summer Camps
- Competitions
- Student Organizations
- Shared Curriculum
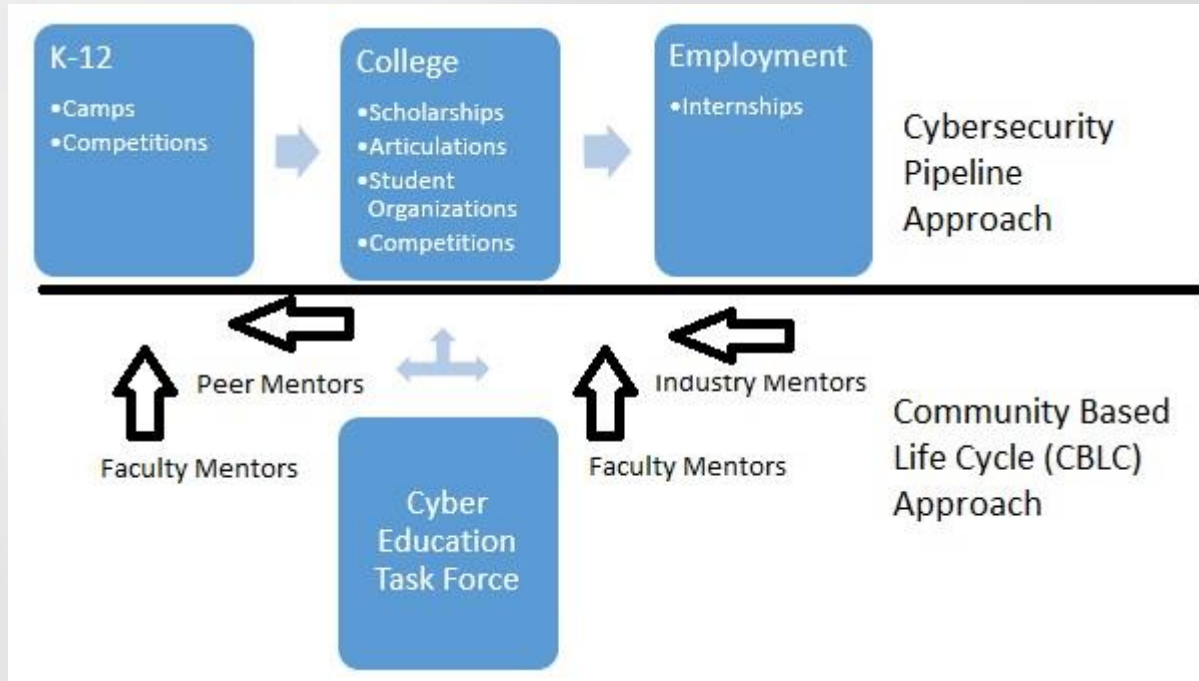- Scholarships
- Mentoring

Examples:
- GenCyber
- CyberPatriot
- BPA
- S-STEM

Many of the tools utilized focus on reaching underrepresented populations

Community Based Life Cycle (CBLC) Approach

Proposed Path

- Cascade Advising, Peer Mentoring, Cohort Building
- Cyber Education Task Force (CETF)
- Cross Departmental Outreach Through Faculty

Challenges

- COVID-19
- Role/Focus of CETF
- Taking Out the Middle-Man
  - Internships vs. Experiential Learning
  - Advising
  - Office of Professional Excellence (OPE)
- Summer Conflicts
  - Internships or Summer Camps?

Implementation

In 2019 Davenport University received a 5-year National Science Foundation – CyberCorps Scholarship For Service (SFS) grant to implement the systems based approach

Directly involve different DU Departments
- OPE - expanding soft-skills
  - Clifton Strength Assessment
  - DiSC Profile
  - Crucial Conversations (Patterson & Grenny)
- Career Services & Internship office
  - Bridge seminars for (government) career readiness

Additional learning materials and experiences
- The Mentoring Manual (Julie Starr)
- The Inclusive Mindset (Justin Jones-Fosu)

Results from Graduate Survey

"Looking back on your overall program experience, how much would you say being in the CyberCorps Scholars program has helped improve your knowledge or understanding of the following skills…"						
(n=15)	Not At All (1)	A Little (2)	Somewhat (3)	Very (4)	Extremely (5)	Average Response
Technical Skills/ Knowledge for Your Program of Study	--	6.7%	60.0%	26.7%	6.7%	3.33
Workplace/ Employability Skills	--	--	33.3%	46.7%	20.0%	3.87
Career Planning	--	--	26.7%	46.7%	26.7%	4.00
Communication in the Workplace	--	6.7%	46.7%	40.0%	6.7%	3.47
Problem Solving/ Critical Thinking	6.7%	13.3%	53.3%	20.0%	6.7%	3.07
Teamwork	6.7%	6.7%	53.3%	13.3%	20.0%	3.33

- 67% stated the SFS helped with Workplace/Employability Skills (very + extremely)
- 73% stated that the SFS helped with Career Planning
- Only 27% stated that the SFS helped with Problem Solving/Critical Thinking - (which is not a direct focus of the mentoring aspect of the program)
- Teamwork: 53% satisfied?

Changes for Future

Based off scholar data we propose:
- New Role of CETF (Less expansive)
- Mentoring Partnerships
  - Professional Organizations (with mentoring)
  - DU Initiatives (e.g. Casa Latina, 1st Gen, S-Stem, CUE Program)
  - Middle College
- More comprehensive onboarding process

Impacts

"Those discussions we do in our biweekly meetings, when we do those interview preparation stuff before the career fair is what I think is really helpful for me personally. … I haven't really ever had that much practice with it and when I joined this program, I did get more practice in communication in general and communicating with people who are already in their professional fields." (Returning Scholar)

"I like the mentoring aspect. I feel like that helps prepare me - helps me put myself in a leadership position to help someone." (Returning Scholar)

"Just overall having that ecosphere of people around you, that group of people around you constantly. It gives you a little network to start out from where you can start branching off of. So I think it stresses the importance of networking and prepares you in that way and does a good job of prepping you to go into interviews and go into the workforce from a starting standpoint." (New Scholar)

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Thank you!

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