BlueSky Tennessee Institute

WHY BLUESKY?

BCBST has more open tech jobs than can be filled locally

925
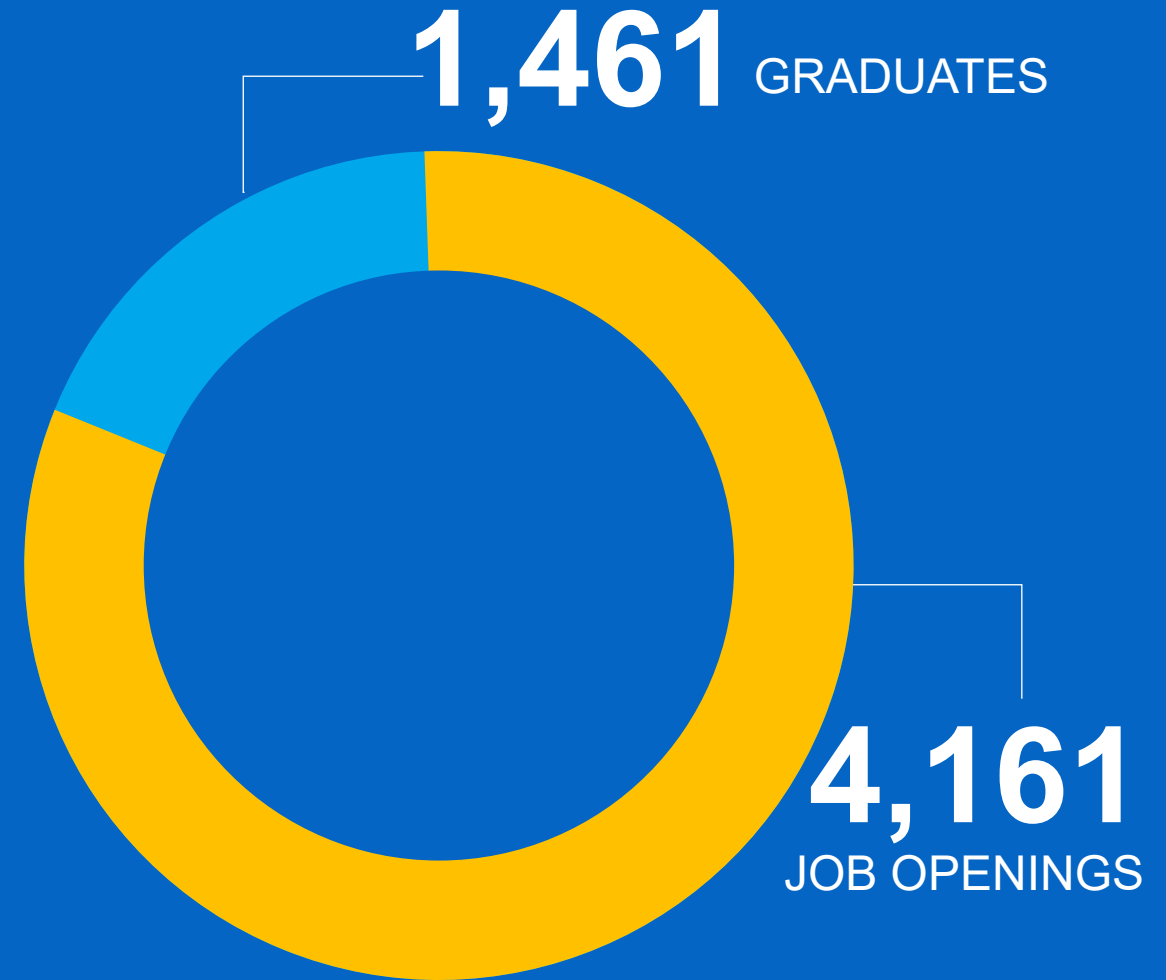IS employees

231
Outsourced jobs

50
Open jobs

Tennessee universities aren't producing enough qualified computing graduates

- In 2019 there were **4,161 job openings** for graduates with less than 2 years' experience
- There were only **1,461 graduates**

1,461 GRADUATES

4,161 JOB OPENINGS

Technical Skills

Foundational Technical Skills	Advanced Cyber Security Skills	Advanced Development Skills	Quality Assurance Skills	Workplace (Soft) Skills
Computer fundamentals, terminology, and roles	Advanced network security	Complex code management	Software test lifecycle practices and principles	Communication
Programming fundamentals / secure coding principles	Advanced development skills - ethical hacking	Application launch and exception handling	Application performance monitoring & diagnostics / Performance tuning	Problem solving and decision-making
Basic database structure	Advanced security principles (including access mgmt. principles)	Advanced middleware / API	Testing techniques (black/white box, boundary testing)	Professional etiquette
Operating system basics	Digital forensics	Architecture infrastructure	Integration & extension of vendor-dev software	Independent starter, initiator
Data correlation	Defensive technologies	Advanced data communication and networking	Test case design & execution / Test automation & performance script development	Effective teaming
Coding best practices	Public key infrastructure & cryptography	Data analytics and BI		Time management and efficiency
Development lifecycle (DevOps, Agile, User requirements)	Advanced Excel/Access	Interactive programming (BPM, WAS)	Automation performance execution and reporting analysis	Feedback and improvement mindset
Basic security principles	Automation	Safe scaled Agile	Defect management practices and principles	Emotional intelligence, including conflict management
Networking fundamentals		Mobile development	Intro to Environment Management	Stress management and work/life balance
Fundamentals of testing		Cloud development		Community engagement
		AI/machine learning		

BlueSky Technical Skills and Mastery Requirements mapped to required courses in the program
I = Introduced – Skill is covered at an introductory level in the domain of class content and projects
R = Reinforced – Skill is reinforced in class content and projects (prior knowledge extended)
E = Emphasized – Skill is a focal element of class content and is covered extensively at an advanced level
P = Proposed – Content is proposed to be covered as a part of an internship course on site with BCBS

		CSCI 1210	CSCI 1250	CSCI 1260	CSCI 1400	CSCI 1510	CSCI 1900	CSCI 2020	CSCI 2150	CSCI 2910	CSCI 3020	CSCI 3400	CSCI 3410	CSCI 3500	CSCI 3700	CSCI 3850	CSCI 4047	CSCI 4250	CSCI 4350	CSCI 4537	CSCI 4607	CSCI 4757	CSCI 4767	CSCI 4770	CSCI 4905
Foundational Technical Skills	Computer fundamentals, terminology, and roles	I	I	I		I	I		I	R		I	R	R	R	R					R	I	E		
	Basic database structure							I		R	E											R	E		
	Development lifecycle (DevOps, Agile, User requirements)		I	R						R			R	R				I	E			R	R		
	Programming fundamentals	I	I	R			I			R	E						I						E		
	Networking fundamentals						I					E	R	R							R	R			
	Fundamentals of testing					I				R					R			R	E			E	R		
	Operating system basics				I					E															
	Coding best practices	I	I	R						R			I	I				R			I		E		
	Basic security principles									I			E	E	R				E	E	E		R		
	Data correlation							I		R	R						E								
	Secure coding principles		I	I						R			I	I					R	I	I		R		
Advanced Cyber Security Skills	Advanced Excel/Access														I										P
	Advanced network security											I	E	I							I	E			P
	Defensive technologies												E	E							E	E			
	Digital forensics												I	E											
	Advanced security principles												E	E					R			E			
	Access management principles												R	E					R			E		R	
	Public key infrastructure												R	E							I	R			
	Automation												E	I							I	E			
Advanced Development Skills	Complex code management			I						I								R	E					R	
	Advanced data communication and networking										I	E													
	Data analytics and BI										I				R	I	E								
	AI/machine learning										I				R		E					I			
	Mobile development																								P
	Architecture infrastructure									E															P

8

BlueSky provides a holistic student experience

SUPPORTED

- Success coaching
- Connections to wrap-around services
- Extracurricular activities
- Community environment
- BlueCross trainee program

EQUIPPED

- Technical, workplace and life skills
- Hands-on, team projects
- Real-world applications

ENGAGED

- Mentorship and project experience with BlueCross
- Work portfolio
- Job offer upon graduation

PREPARED

- Building and enhancing professional relationships
- Developing confidence to excel in the workplace
- Foundation for technical and workplace "life" skills

Intrusive Advising Model

LEARN. CONNECT. EVOLVE. THRIVE.

ACADEMIC	SOCIAL	PROFESSIONAL & PERSONAL DEVELOPMENT	CRISIS MANAGEMENT
Objectives To provide consistent support and feedback related to student's academic progress To identify which supports and services are needed as early as possible	Objectives To create a positive climate and culture inside and outside of the classroom To provide students with regular social engagement opportunities to develop and cultivate relationships	Objectives To equip students with additional skills for career success To guide students in understanding and developing their strengths and talents	Objectives To have a problem-solving approach to crisis situations To increase stability for students

EAST TENNESSEE STATE
U N I V E R S I T Y

Signing Day and Summer Bridge

Scholarship Opportunities

Financial Support to date

- BCBST Foundation
- Benwood Foundation
- State of Tennessee
- Community Foundation of Chattanooga

BLUESKY

EAST TENNESSEE STATE UNIVERSITY

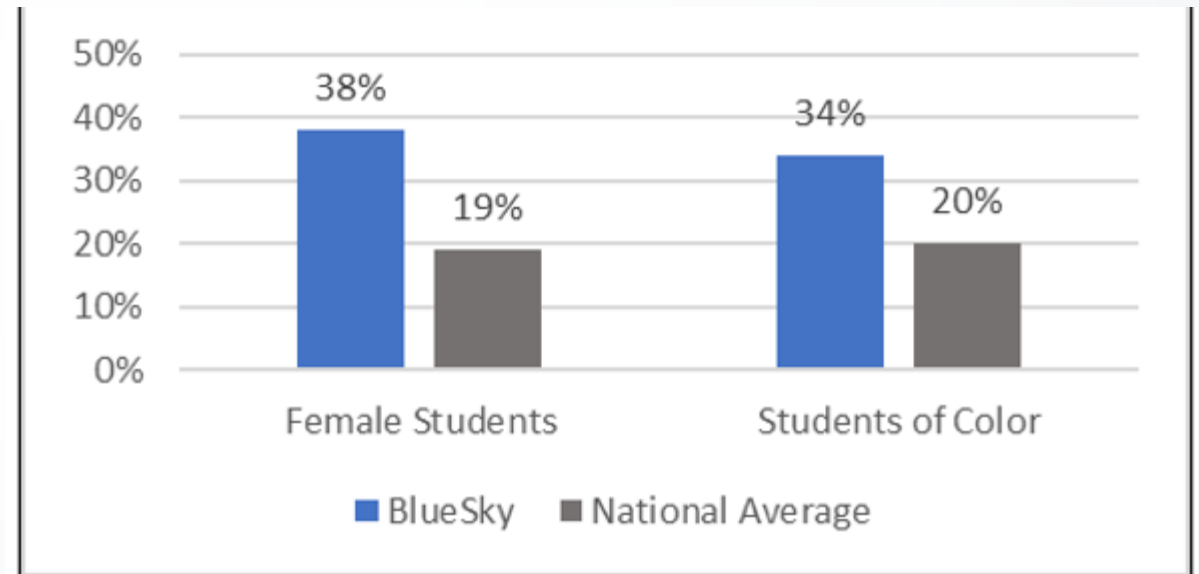**Cohort One**

BLUESKY · EAST TENNESSEE STATE UNIVERSITY

Cohort 1 Statistics

32 students

- 12 (38%) are female
- 11 (34%) are students of color
- 16 (50%) are from high priority schools in Hamilton County

National Comparisons

- 19% of bachelor's degree earners are female
- 9% are Black
- 11% are Hispanic

Intrusive Advising

10-12 students on watch-list for grades or outside issues. 6 high-priority cases of at least one failing grade at mid-semester.

Approaches to resolve:

- Mandatory study hall.
- Weekly recitation sessions with instructors.
- Instructors refresh grades between mid and end of semester.
- Incentive: Students informed that if they met expectation and returned next semester, they would receive a $1,000 incentive.

Some Lessons Learned

Employer recruitment processes need to evolve to reach current students. Start early.

Mutually beneficial partnerships—higher education, business, charitable foundations, students/families—can help all groups better achieve goals.

Candid, specific discussions with businesses regarding needs can yield powerful solutions.

This pattern—strong academics, internships, mentorship, job-embedded learning, financial support to students—can be scaled to meet company need.

Questions?
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