



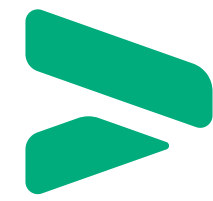
# Information & Communication

## Technologies:


### Building the Full Stack



October 12, 2023



# Housekeeping

- ✓ Enable your video camera (optional)
- ✓ Please stay on  unless you are called on to ask a question
- ✓ Submit all questions and commentary using the chat function
- ✓ This meeting will be recorded and will be provided as part of the post-meeting materials
- ✓ Closed captioning is available to Zoom participants, let us know in the chat if you need assistance enabling this option



# Welcome & Introduction

Hilary Tellesen, Valley Vision  
Project Leader

Alena Anberg, North Far North Regional  
Collaborative, Director of Employer  
Partnerships, Business and Technology Sectors



# Agenda

1:00 PM: Welcome and Introduction

1:10 PM: Labor Market and Trend Analysis

1:30 PM: Live Polling

1:35 PM: Panel Discussion

2:30 PM: Entry-level Skills & Certifications Spotlight

2:45 PM: Community College Spotlight

2:55 PM: Conclusion



# Thank you

to all of our supporters



# ➤ Thank You Planning Committee



Jared Amalong  
Director of Computer  
Science and Digital  
Learning, Sacramento  
County Office of  
Education

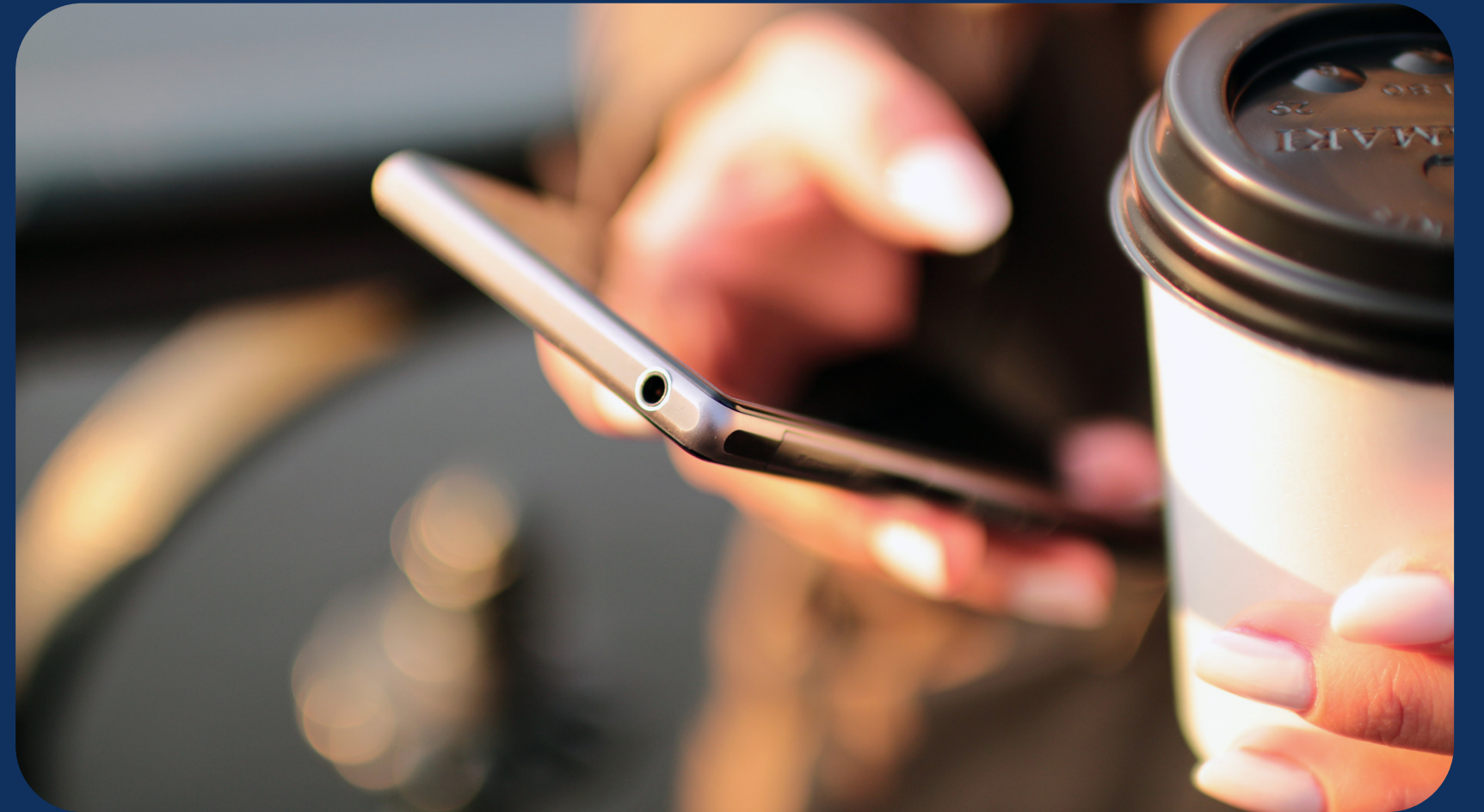


Alena Anberg  
Director of Employer  
Partnerships, Business  
and Technology Sectors,  
North Far North  
Regional Collaborative



Sheley Little  
Professor & Department  
Chair of Computer  
Information Science,  
Sacramento City College

# Live Polling with Mentimeter





# Labor Market & Trend Analysis

Ebony J. Benzing, MPA  
Interim Director  
North/Far North Center of Excellence  
Los Rios Community College District



# Full Stack Developers and ICT Career Paths in Greater Sacramento

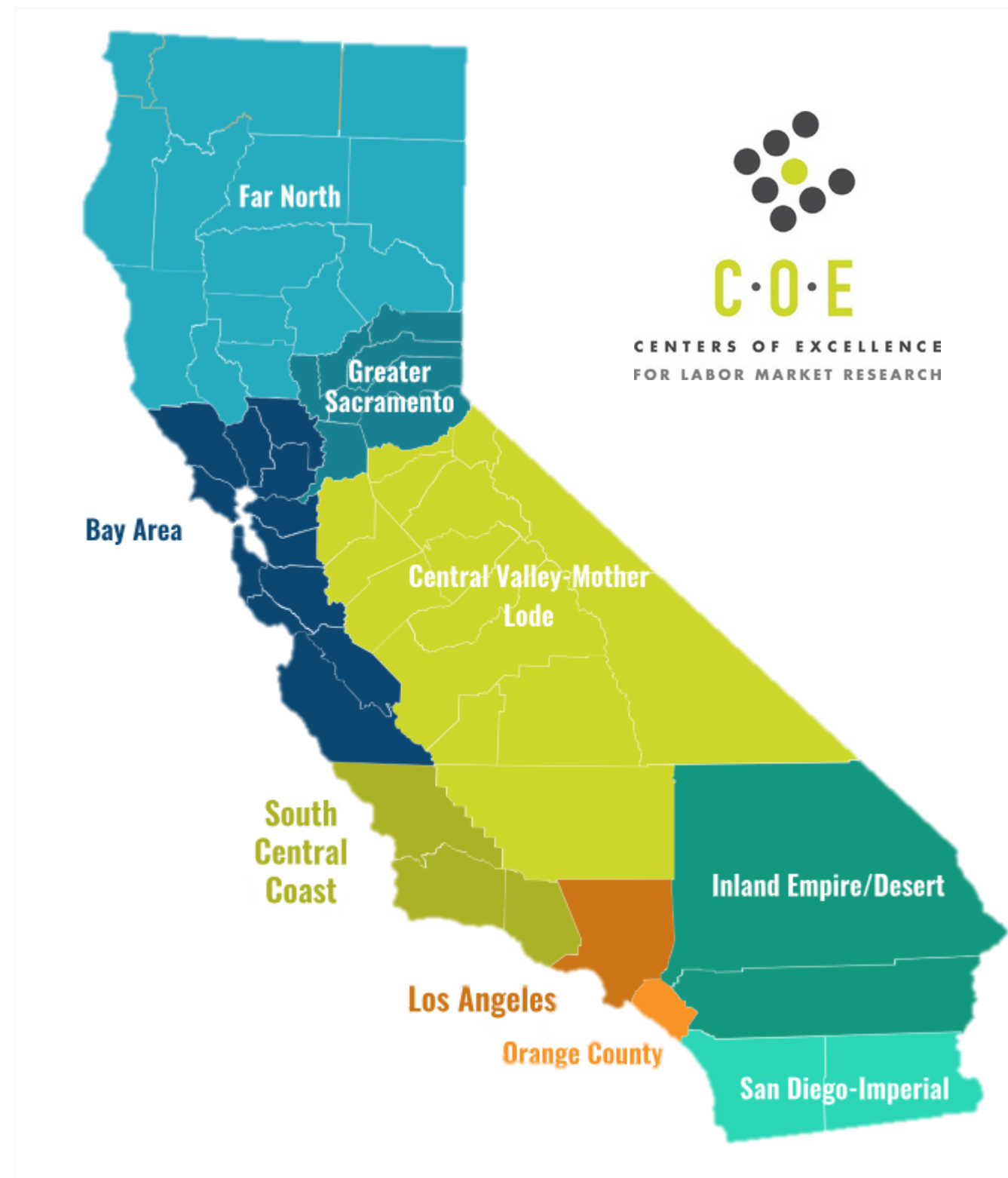
North (Greater Sacramento) Regional Advisory – ICT/DM

Thursday, October 12, 2023

Ebony J. Benzing, Interim Director, NFN COE



# The Centers of Excellence for Labor Market Research



COE Region	Director
State	Laura Coleman
North Far North	Ebony J. Benzing (North)
	Sara Phillips (Far North)
Bay Area	John Carrese
Central Valley/ Mother Lode (CVML)	Nora Seronello
South Central Coast	Adele Hermann
Los Angeles	Luke Meyer
Orange County	Jesse Crete
Inland	Michael Goss
Empire/Desert San	Tina Ngo Bartel
Diego/Imperial	



Industries & businesses

Size & performance of labor market

Occupations & job titles

Wages & earnings

Education & training requirements

Credentials

Skills

Emerging trends

- What is the **employment outlook** for students?
- What **skills** and **credentials** are needed for employment?
- What **programs** look ripe for investment?

## Typical COE Research Questions

# Presentation Overview

- About Full Stack Developers
- Traditional Labor Market Demand for ICT Careers in Greater Sacramento
- Job Postings Analysis
- Postsecondary Programs



# What is a “Full Stack” Developer?

- A developer or engineer who can build both the front end and back end of a website
- Full stack developers:
  1. Work with a website from start to final launch
  2. Prototype, create, and build websites along with user interface team
  3. Design user interactions through robust front-end architecture
  4. Communicate with end users to determine product effectiveness
- Full Stack Developers are VERSATILE and “jacks-of-all-trades”

## Essential KSAs for Full Stack Developers

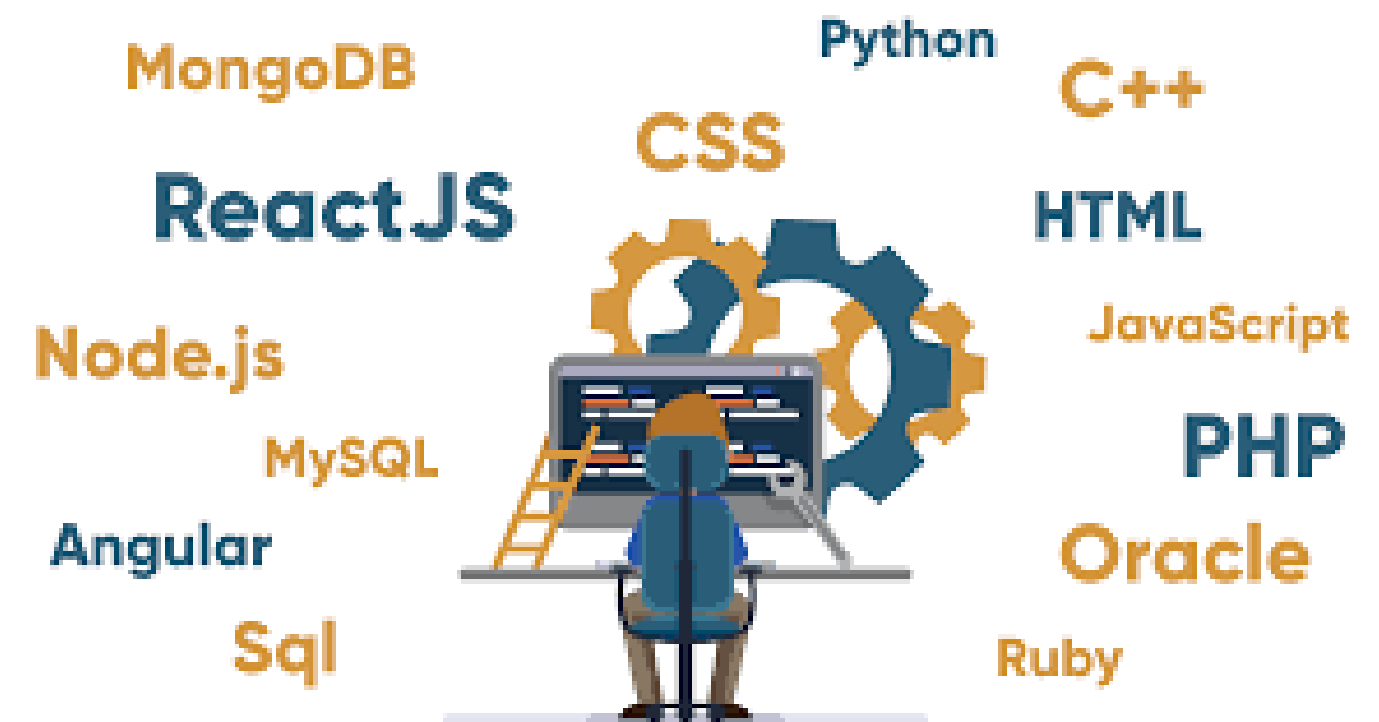
- **Front-end Languages** and Frameworks (Ex. HTML, CSS, JavaScript)
- **Backend Technologies** and Frameworks (Ex. PHP, Python, Ruby, Java, NodeJS, Django, Flask, C++)
- **Web Architecture**
- **Database Management** (Ex. MySQL, SQL server, PostgreSQL, MongoDB, Oracle)
- **Version Control** (Ex. Git and GitHub)
- Basic **design principles** and skills (Includes UI & UX design, prototyping, scalability, etc.)
- **SOFT SKILLS:** Analytical mindset, communications, time management, curiosity, attention to detail, creative vision, patience.



# Becoming a Full Stack Developer

Per 2023 Stack Overflow Global Survey:

- Most professional developers have at least a **bachelor's degree** (47%), with another quarter holding a master's degree (26%)
- Although 48% of survey respondent have been coding for less than 10 years, **developers in the US have an average of 16.5 years of coding experience**
- Respondents between **18 and 24 years of age most frequently learn coding from online resources** (84%; form of videos, blogs, forums), while those aged **25-34 years** were the top cohort to most likely to have **learned from online courses or certifications** (52%) and **school** (55%).





# Traditional Labor Market Demand

Source: Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed workers

Base year 2022 with projections through 2027

Seven-county North (Greater Sacramento) subregion

Detailed occupational data, including wages, at end of presentation

# ICT Occupations

Where most full stack job titles align

## Support Specialists

- Computer User Support Specialists
- Computer Network Support Specialists

Jobs in these occupations typically require up to an associate degree.

## Systems and Information Analysts

- Computer Systems Analysts
- Information Security Analysts

## Database and Network

- Computer Network Architects
- Database Administrators
- Database Architects
- Network and Computer Systems Administrators

## Software and Web Development

- Programmers
- Software Developers
- Software QA Analysts and Testers
- Web Developers
- Web and Digital Interface Designers

The typical entry-level education most workers need to enter these occupations is a bachelor's degree; however, alternative routes into these careers may exist.



# Greater Sacramento ICT Jobs

31,662  
2022 Jobs

33,416  
2027 Jobs

+1,754  
2022-27 Projected  
Change

6%  
2022-27 Projected %  
Growth

(G Sac 5-Yr Projected Prowth - All Jobs - 9%)

2,741  
Annual Job Openings,  
2022-27

\$102,497  
2022 Median Annual  
Wage

Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers.

# Greater Sacramento ICT Employment

Occupational Group	2022 Jobs	2022-27 Projected Change	2022-27 Projected % Change	2022-27 Annual Job Openings
Computer Support Specialists	14,486	207	1%	1,203
Software and Web Development	10,119	1,091	11%	949
Database and Network	3,649	158	4%	279
Systems and Information Analysts	3,408	298	9%	309
<b>Greater Sacramento Totals</b>	<b>31,662</b>	<b>1,754</b>	<b>6%</b>	<b>2,741</b>

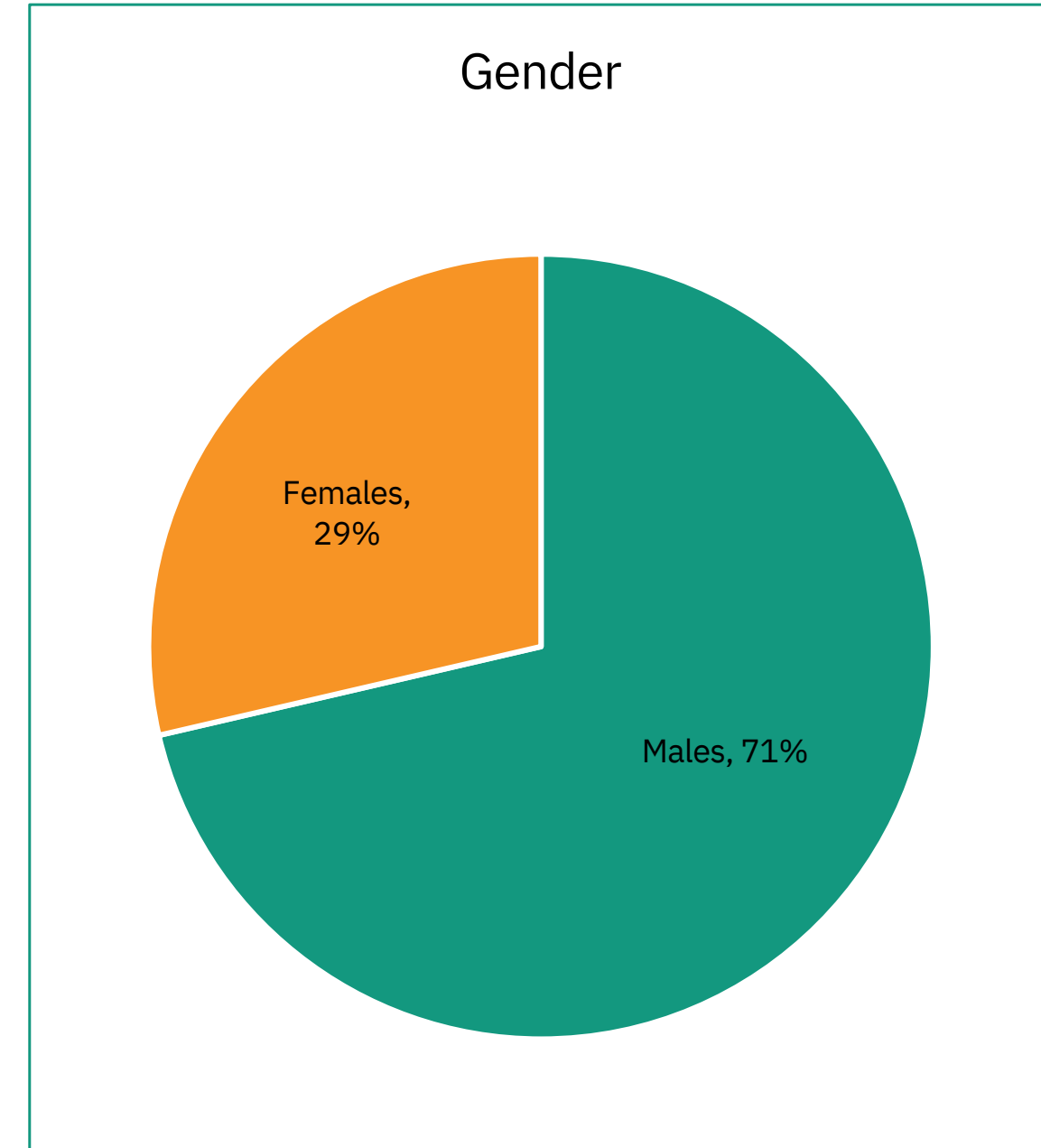
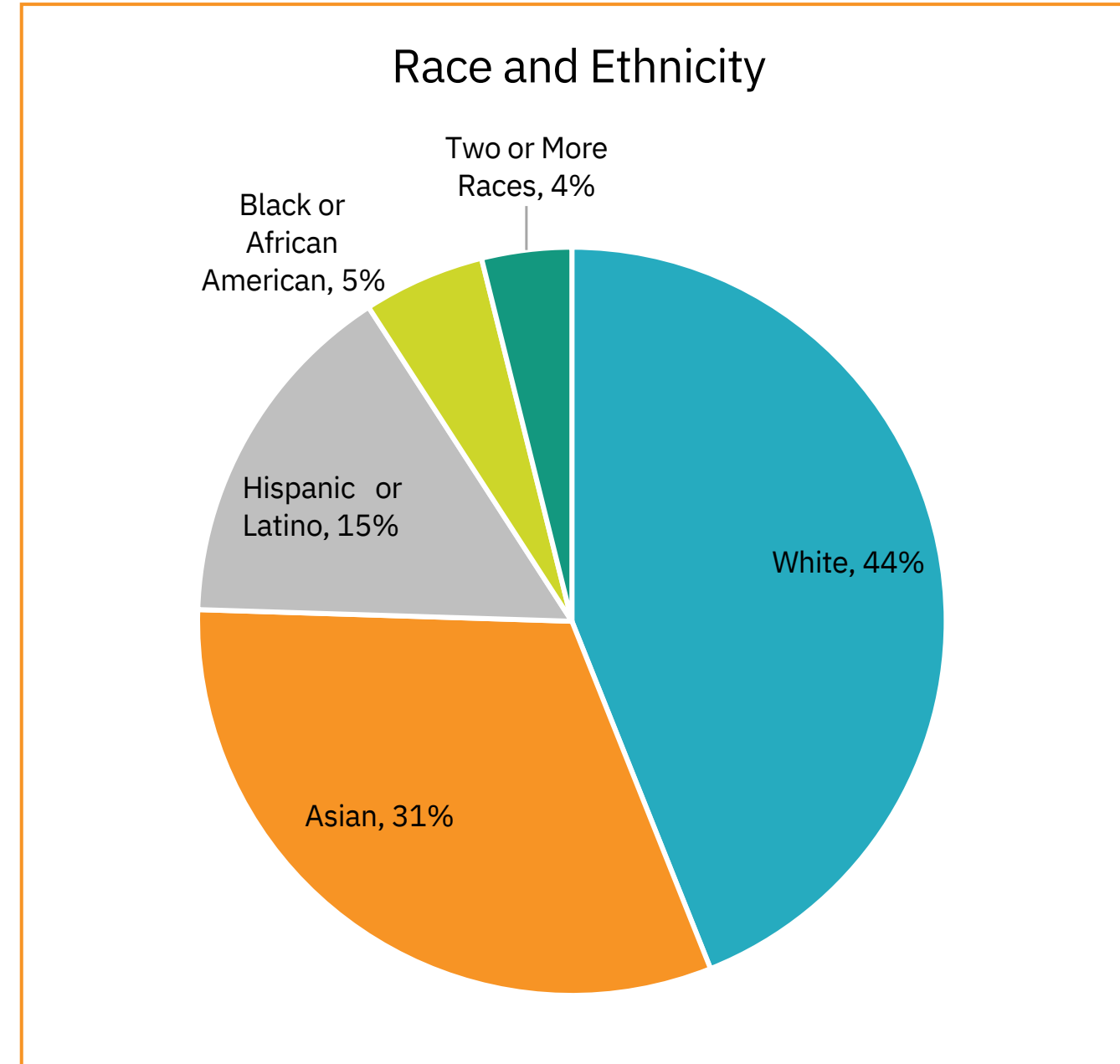
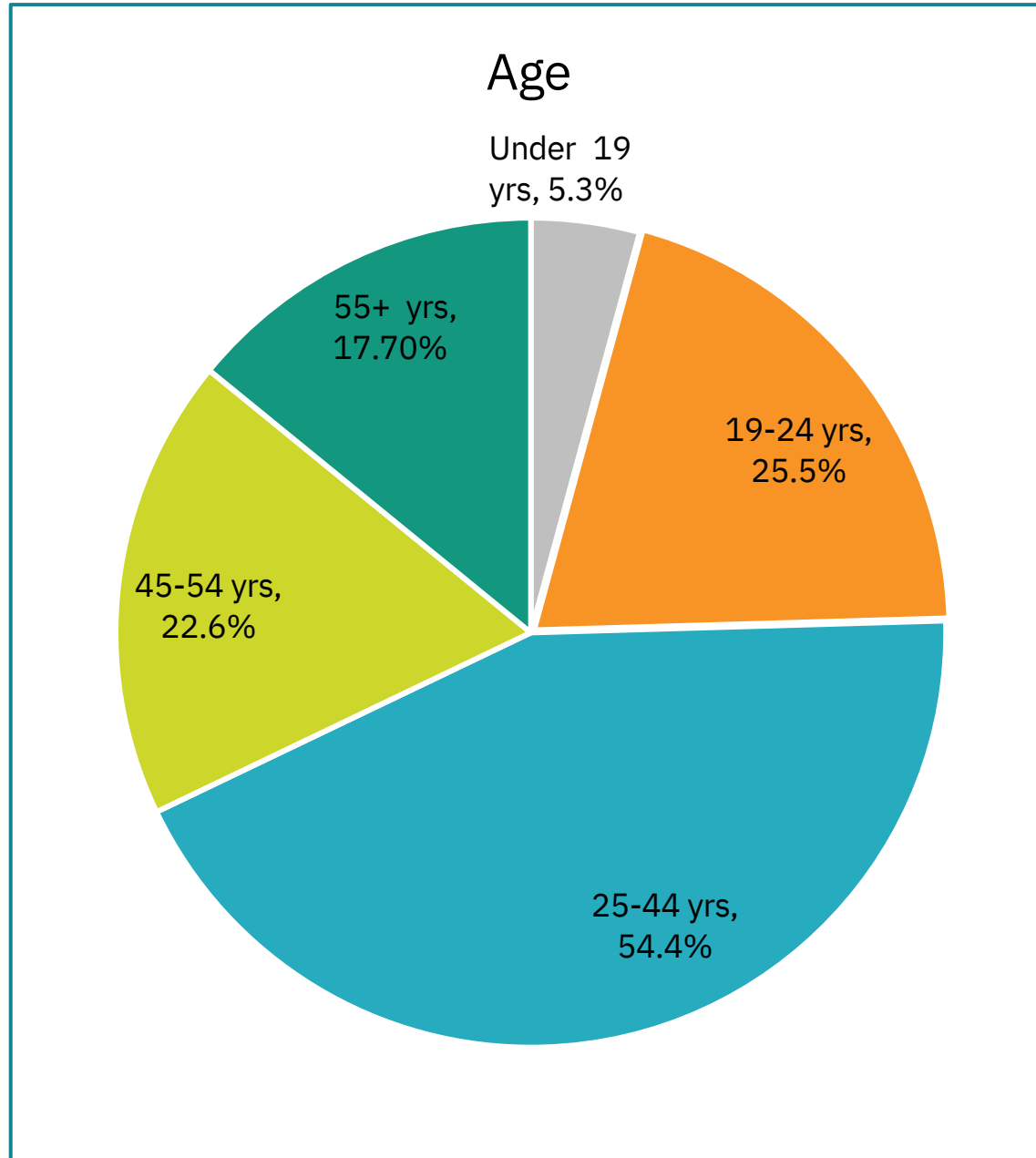
Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers.

# Target ICT Occupations

Most Jobs	Most Projected Growth	Fastest Growth	Most Job Openings over next 5 Years
<ul style="list-style-type: none"><li>• <b>Support Specialists</b> Occupations, 14.5K jobs in 2022</li><li>• Mostly <b>Computer User Support Specialists</b> (13.5K jobs)</li></ul>	<ul style="list-style-type: none"><li>• <b>Software &amp; Web Development</b> Occupations</li><li>• +1K jobs over next five years</li><li>• Most growth among Software Developer occ (+875 jobs)</li></ul>	<ul style="list-style-type: none"><li>• <b>Software &amp; Web Development</b> Occupations</li><li>• Overall 11% growth over next five years</li><li>• Fastest: Software Developers (13%)</li><li>• Fast but smaller job numbers: Web &amp; Digital Interface Designers, Web Developers</li></ul>	<ul style="list-style-type: none"><li>• <b>Computer User Support Specialists</b> (&gt;1K AJO)</li><li>• <b>Software Developers</b> (654 AJO)</li></ul>

Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers. See detailed occupational table at end of presentation for additional data.

# ICT Worker Demographics



Lower than Average Retirement Risk in Greater Sac ICT Jobs  
 -<18% workers aged 55 years or older - Greater Sacramento average\*: 24.4%

Average Racial Diversity in Greater Sac ICT Jobs  
 -56% racially diverse, or non-white, workers - Regional average\*: 53.5%  
**-Hispanic or Latino Workers Underrepresented**

Higher than Average Gender Diversity in Greater Sac ICT Jobs  
 -29% female identifying workers - State average\*\*: 25%  
**-Still an opportunity to increase female worker participation**

Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers.

\* Across all 798 occupations employed in 7-county North (Greater Sacramento) subregion

\*\* Across the same 13 ICT occupations employed across California.

There were an insufficient number of workers who identified as Native Hawaiian or Other Pacific Islander and American Indian or Alaska Native employed in ICT occupations across Greater Sacramento; workers with these racial identified represented less than 0.5% of the ICT workforce in 2022.





# Job Postings Analysis

Source: Lightcast 2023.3

13 ICT occupations + “Full Stack” job titles

Seven-county North (Greater Sacramento)  
subregion

Job posted online between October 1, 2022 –  
September 30, 2023

# Greater Sacramento Job Posting Search

## 13 ICT Occupations

11,380

Online Job Postings

2,179

Employers looking for Workers

25 Days

Median Posting Duration

## “Full Stack” Job Titles

240

Online Job Postings

110

Employers looking for Workers

22 Days

Median Posting Duration

# ICT Job Postings by Category

#	2,079 job postings	1,869 job postings	2,006 job postings	5,426 job postings
Top Employers	<p>User Support</p> <ul style="list-style-type: none"> <li>•University of California</li> <li>•State of California</li> <li>•Best Buy</li> <li>•University Enterprises</li> <li>•Los Rios CCD</li> </ul>	<p>Systems &amp; Information Analysts</p> <ul style="list-style-type: none"> <li>•University of California</li> <li>• Deloitte</li> <li>• Accenture</li> <li>• Intel</li> <li>•State of California</li> </ul>	<p>Database &amp; Networking</p> <ul style="list-style-type: none"> <li>•University of California</li> <li>•State of California</li> <li>•UC Davis Health</li> <li>•Elevance Health</li> <li>• Gainwell Technologies</li> </ul>	<p>Software &amp; Web Development</p> <ul style="list-style-type: none"> <li>•State of California</li> <li>• Intel</li> <li>•University of California</li> <li>•E Business Corp</li> <li>• Deloitte</li> </ul>
Top Job Titles	<p>User Support</p> <ul style="list-style-type: none"> <li>•IT Specialist</li> <li>•IT Technician</li> <li>•Desktop Support Technician</li> <li>•Technical Support Specialists</li> <li>•Help Desk Technicians</li> </ul>	<p>Systems &amp; Information Analysts</p> <ul style="list-style-type: none"> <li>•Business Systems Analysts</li> <li>•Business Solutions Analysts</li> <li>•Systems Analysts</li> <li>•Information Security Analysts</li> <li>•Systems Specialists</li> </ul>	<p>Database &amp; Networking</p> <ul style="list-style-type: none"> <li>•Systems Administrators</li> <li>•Network Engineers</li> <li>•Data Engineers</li> <li>•Research Data Specialists</li> <li>•Information Systems Analysts</li> </ul>	<p>Software &amp; Web Development</p> <ul style="list-style-type: none"> <li>•Software Developers</li> <li>• .NetDevelopers</li> <li>•Business Intelligence Developers</li> <li>•Software Developers</li> <li>•Application Developers</li> </ul>
Top Occ	<p>Computer User Support Specialist (1,931 postings)</p>	<p>Computer Systems Analysts (1,274 postings)</p>	<p>Database Administrators, Network and Computer Sys Administrators (590 postings each)</p>	<p>Software Developers (3,936 postings)</p>

# Most Wanted ICT Job Skills by Category

## User Support

- Technical Support
- Help Desk Support
- Operating Systems
- Peripheral Devices
- Active Directory
- Computer Science
- Computer Hardware
- Desktop Support
- Project Management
- Information Systems

## Systems & Information Analysts

- Project Management
- Computer Science
- Business Process
- Information Systems
- Auditing
- Business Requirements
- Cyber Security
- Business Systems Analysis
- Agile Methodology
- SQL

## Database & Networking

- Computer Science
- SQL
- Project Management
- Operating Systems
- Python
- Data Analysis
- Amazon Web Services
- Microsoft Azure
- Information Systems
- Linux

## Software & Web Development

- Computer Science
- SQL
- JavaScript
- Agile Methodology
- Software Engineering
- Python
- Software Development
- APIs
- Automation
- Java

Source: Lightcast 2023.3.

These skills also show up in “Full Stack” job postings



240 job postings  
over last 12  
months

# “Full Stack” Job Postings

## Employers

- Wilbur-Ellis
- FIS
- Agile Global Solutions •
- Deloitte
- Staff Tech
- Accenture
- Guidehouse
- General Dynamics
- Amick Brown
- Davis Vision

## Job Titles

- Full Stack Developers
- Full Stack Software Engineers
- Full Stack Engineers
- .NET Full Stack Developers
- Full Stack Java Developers
- Full Stack Web Developers
- Full Stack LAMP Developers
- Full Stack Software Developers
- Full Stack JavaScript Developers
- .NET Full Stack Architects

## Employer-Preferred Education

60% of job postings required a Bachelor's degree or higher  
(5% required up to an associate's degree)

## Employer-Preferred Experience

53% of job postings required 2-6 years of prior work experience.  
(3% required up to 1 year of experience)

## Wage Premium!

Median advertised salary:  
**\$59.69/hour**  
(across 13 ICT occs: \$44.98/hr)

# Most Wanted “Full Stack” Job Skills in Greater Sacramento

## Specialized Skills

- Full Stack Development
- JavaScript (Programming Language)
- React.js (JavascriptLibrary)
- SQL (Programming Language)
- Cascading Style Sheets (CSS)
- Angular (Web Framework)
- Computer Science
- Amazon Web Services
- Agile Methodology
- Application Programming Interface (APIs)

## “Common” or Transferable Skills

- Communications
- Troubleshooting (Problem Solving)
- Problem Solving
- Self-Motivation
- Customer Service
- Operations
- Writing
- Management
- Leadership
- Planning

## Software

- JavaScript
- React.js
- SQL
- Cascading Style Sheets (CSS) •
- Angular
- Amazon Web Services
- Application Programming Interface (API)
- Node.js
- Java
- HyperTextMarkup Language (HTML)

# Educational Programs & Supply

Sources: CCCC DataMart, IPEDS, and Lightcast  
Seven-county North (Greater Sacramento) subregion



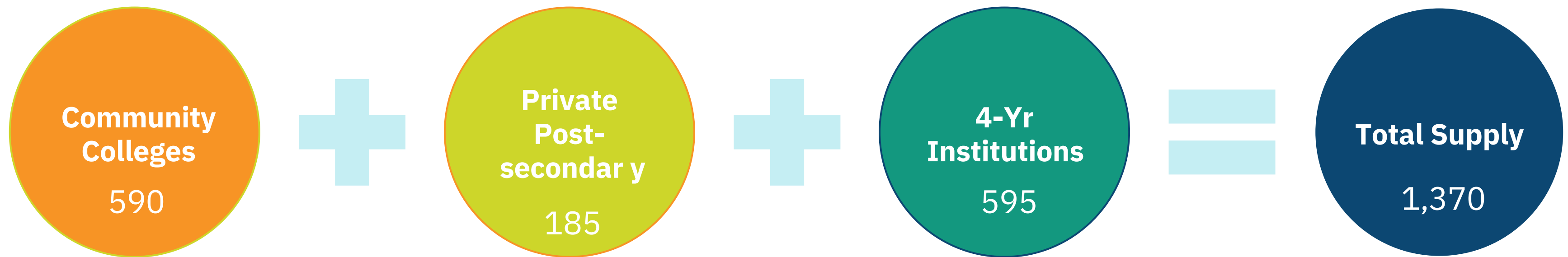
# ICT Training Programs across Greater Sacramento Region

Community-Targeted & “Foot-in-Door” Focused	Community Colleges	Private Postsecondary	Four-Year Institutions	Coding Bootcamps
<ul style="list-style-type: none"><li>•Yolo Works – Google Certificates and North Star Digital Literacy programs</li><li>•GSEC –Digital Upskill Sacramento</li></ul>	<ul style="list-style-type: none"><li>•More than 80 certificate and associate degree programs spanning multiple focuses including:</li><li>•BIW</li><li>• Cybersecurity</li><li>•Software Design</li><li>• Networking</li><li>•IT Support</li><li>•AWS</li><li>•And, more.</li></ul>	<ul style="list-style-type: none"><li>•Asher College</li><li>•MTI</li></ul>	<ul style="list-style-type: none"><li>•Bachelors in Computer Science</li><li>•CSU Sacramento</li><li>•UC Davis</li><li>•William Jessup</li></ul>	<ul style="list-style-type: none"><li>•UC Davis: web development, data analysis, and cybersecurity</li><li>•Bay Valley Tech (Modesto)</li><li>• NuCamp(online)</li></ul>



# Greater Sacramento ICT Program Completions

Average Annual Completions, 2019-2020 through 2022-23



**Demand – Supply = Skilled Worker Gap**

2,741 AJOs – 1,370 regional completions =

**Gap of 1,371 skilled workers to meet local demand for ICT careers**

# Key Takeaways & Recommendations

1. Large demand for skilled ICT workers across Greater Sacramento, especially in computer support and software development occupations
  2. Hispanic/Latino and female-identifying workers are underrepresented in ICT careers
  3. Full stack development jobs are an emerging opportunity in Greater Sacramento; these jobs require a four-year degree
  4. Despite many ICT training programs across region, skilled worker gap still exists.
1. Opportunity to develop and promote programs that encourage and support underrepresented students in ICT career pathways
  2. Ensure community college pathways are clearly articulated to four-year institutions to increase transfers
  3. Improved coordination across multiple layers of ICT training programs, as well as increased focus on connecting community outside of educational institutions to these jobs, will be important in closing skilled worker gap

# Core ICT Occupations (w/ wages)

Occupational Group	SOC Code	Occupation	2022 Jobs	2022 - 2027 Change	2022 – 2027 % Change	2022 – 2027 Avg. Annual Openings	Entry-Level Hourly Earnings	Typical Entry Level Education
Support Specialists	15-1232	Computer User Support Specialists	13,469	146	1%	1,111	\$34.67	Some college, no degree
	15-	Computer Network Support Specialists	1,010	61	6%	93	\$29.4	Associate's degree
Systems and Information Analysts	1231	Computer Systems Analysts	7	19	%	24	4	Bachelor's degree
	15-1212 1211	Information Security Analysts	2,855 580	7 102	7 18%	5 64	\$39.8 \$46.33	Bachelor's degree
Database and Network	15-	Network and Computer Systems Administrators	2,148	95	4%	166	\$28.1	Bachelor's degree
	1244	Computer Network Architects	872	19	2%	60	3	Bachelor's degree
	15-	Database Administrators	451	37	8%	39	\$39.0	Bachelor's degree
	1241	Database Architects	179	8	4%	14	1	Bachelor's degree
Software and Web Development	15-	Software Developers	6,866	875	13%	654	\$36.6	Bachelor's degree
	1242	Software Quality Assurance Analysts and Testers	1,119	84	%	99	5	Bachelor's degree
	15-	Computer Programmers	795	(9)	7%	56	\$59.6	Bachelor's degree
	1243	Web and Digital Interface Designers	747	72	(1%)	79	4	Bachelor's degree
	15-	Web Developers	592	69	)	60	\$50.0	Bachelor's degree
	1252	<b>North (Greater Sacramento) Totals</b>	<b>31,662</b>	<b>1,754</b>	<b>10%</b>	<b>2,741</b>	<b>2</b>	

Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers.

15-

1253

15-

%

12

%

\$37.6

2

\$34.0

# Community College Program Data (w/TOP codes)

TOP Code	TOP Code Title	2020-2021	2021-2022	2022-2023	3-Yr Average Annual Awards
0702.00	Computer Information Systems	26	25	29	<b>27</b>
0708.00	Computer Infrastructure and Support	72	58	80	<b>70</b>
0708.10	Computer Networking	108	87	108	<b>101</b>
0707.10	Computer Programming	103	126	129	<b>119</b>
0706.00	Computer Science (Transfer)	94	121	145	<b>120</b>
0707.00	Computer Software Development	28	14	24	<b>22</b>
0708.20	Computer Support	7	19	16	<b>14</b>
0707.30	Computer Systems Analysis	1	5	19	<b>8</b>
0707.20	Database Design and Administration	25	18	19	<b>21</b>
0614.20	Electronic Game Design	5	2	12	<b>6</b>
0701.00	Information Technology, General	23	39	38	<b>33</b>
0799.00	Other Information Technology	1	1	--	<b>1</b>
0702.10	Software Applications	45	23	26	<b>31</b>
0614.30	Website Design and Development	8	16	15	<b>13</b>
0709.00	World Wide Web Administration	--	4	7	<b>6</b>
	<b>Greater Sacramento Community College Totals</b>	<b>546</b>	<b>558</b>	<b>667</b>	<b>590</b>



# Non-CC Educational Program Data (w/CIP codes)

Bachelor Degrees	CIP Code	CIP Code Title	Institution	2019-2020	2020-2021	2-Yr Average
	11-0701	Computer Science	CSU Sacramento – Bachelor’s degree	239	260	250
			UC Davis – Bachelor’s degree	321	360	341
			William Jessup – Bachelor’s degree	5	4	5
		<b>Greater Sacramento</b>	<b>565</b>	<b>624</b>	<b>595</b>	

## Totals

Awards of <1 yr, 1<2 yrs, and associate degrees from non-cc training institutions	CIP Code	CIP Code Title	2019-2020	2020-2021	2-Yr Average
	11.0901	Computer Systems Networking and Telecommunications	9	4	7
	11.0902	Cloud Computing	-	17	9
	11.1001	Network and System Administration/Administrator	23	3	13
	11.1002	System, Networking, and LAN/WAN Management/Manager	6	8	7
	11.1003	Computer and Information Systems Security/Auditing/Information Assurance	95	101	98
	11.1006	Computer Support Specialist	54	47	51
		<b>Greater Sacramento Totals</b>	<b>187</b>	<b>180</b>	<b>185</b>

Sources: COE Supply Tables, National Career Education Statistics (NCES) Integrated Postsecondary Educational Data System (IPEDS), and Lightcast.

Note: Completions count the number of awards issued in the academic year ending in (XXXX). These counts include certificates, associate degrees, and bachelor degrees only.

# Thank you!

Ebony J. Benzing  
Interim Director

[ebony.benzing@losrios.edu](mailto:ebony.benzing@losrios.edu)

916-563-3215

[coecc.net](http://coecc.net)



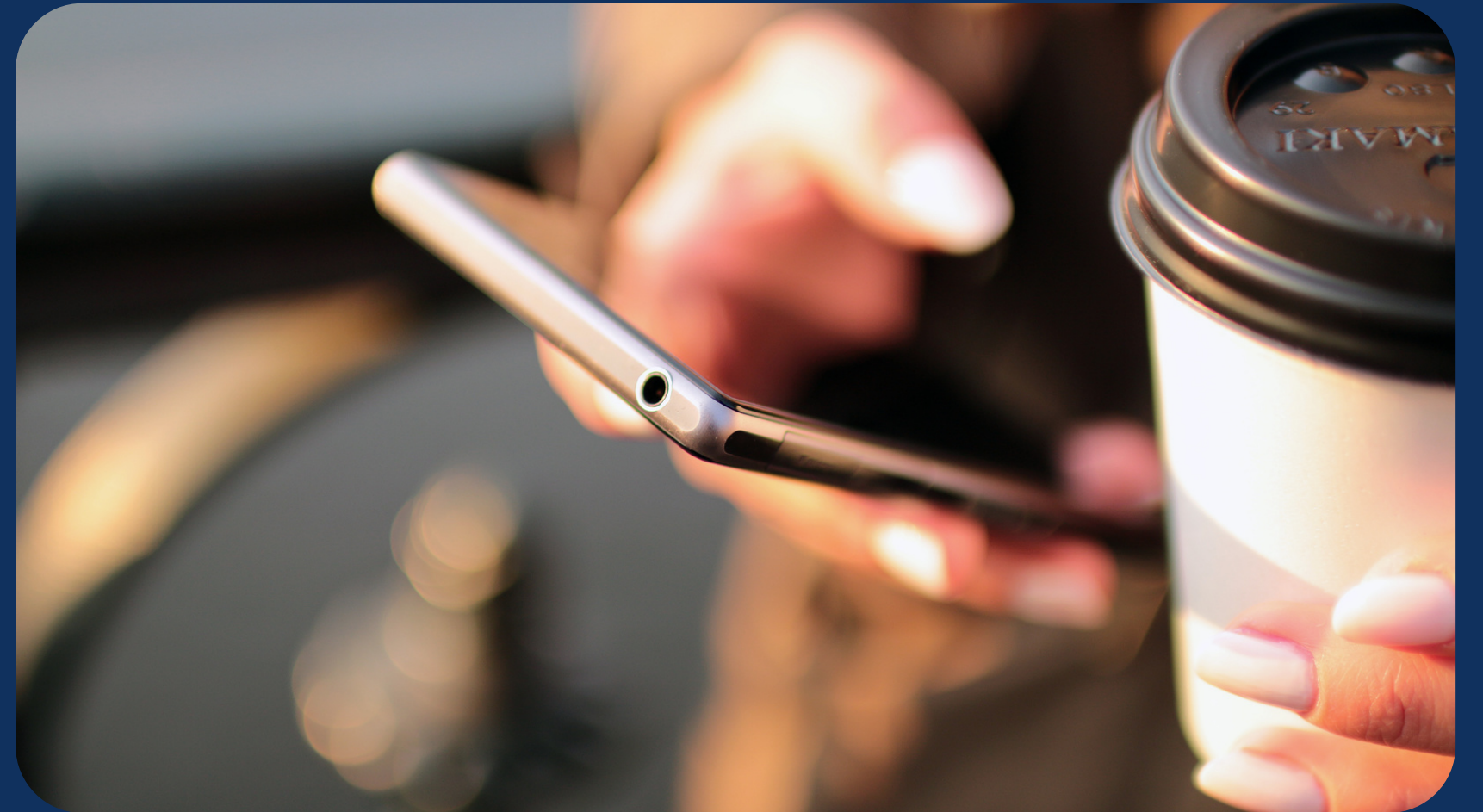
**C·O·E**

**CENTERS OF EXCELLENCE  
FOR LABOR MARKET RESEARCH**

# Data Sources & Methods

- Center of Excellence TOP-SOC Crosswalk. <http://coeccc.net/>
- Emsi 2023.3 QCEW Employees, Non-QCEW Employees, and Self-Employed workers. <https://www.economicmodeling.com/>. EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors).
- “Labor Insight Real-Time Labor Market Information Tool.” Burning Glass Technologies. <http://www.burning-glass.com>.
- “Taxonomy of Programs.” California Community Colleges Chancellor’s Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.ashx>.
- Management Information Systems (MIS) Data Mart. California Community Colleges Chancellor’s Office. <https://datamart.cccco.edu/>.
- Integrated Postsecondary Education Data System (IPEDS). National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/ipeds/>.
- O\*NET OnLine. U.S. Department of Labor/Employment and Training Administration (DOLETA). <https://www.onetonline.org/>.
- The seven-county North (Greater Sacramento) includes El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba Counties
-

# Live Polling with Mentimeter





# Panel Discussion

Hilary Tellesen, Valley Vision, Project Leader





# » Industry Panel Discussion



Luyen Le

IT Manager, Application  
Support for Placer  
County



Jesse Ravera

Assistant IT Director, City  
of Roseville



Greg Bianchi

Director of Digital  
Inclusion, Microsoft  
Philanthropies



Scott Stephenson

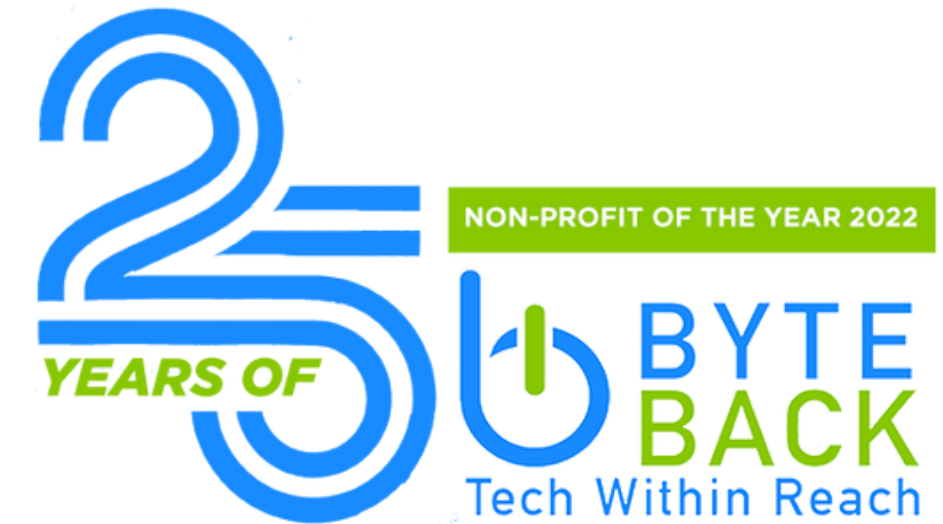
Director of Support  
Services, Swinerton

# » Entry-level Skills & Certifications Spotlight



**Cassandra Keitges, Adult Learning & Literacy Supervisor**

**Suzy Murray, Collection Services**



**Andy Urrutia, Program Coordinator**



# ADULT EDUCATION CAREER DEVELOPMENT

*SUZY MURRAY*

*CASANDRA KEITGES*

# Skills Training

[www.saclibrary.org](http://www.saclibrary.org)

Professional & Personal Development

- **Adult Learning**
- **Center Coursera**
- **Gale Courses**
- **LinkedIn Learning**

# Adult Learning Center



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Practice tests and resources to help you prepare
-  **Microsoft Office Help**  
Connect with one of our LIVE experts to learn MS Word, Excel or PowerPoint
-  **Career Resources**  
Tips and resources to start your job search
-  **Write a Winning Resume**  
Our HelpNow writing experts will help you craft a winning resume and cover letter

### LIFELONG LEARNING

with LIVE one-on-one help

Use our ever-expanding suite of services to brush up on your skills, learn something new, and test your knowledge.

-  **Live Tutoring**  
Get live one-on-one help
-  **Skills Building**  
Live tutors to help you learn an academic skill
-  **Writing Lab**  
Get writing help
-  **Test Center**  
An ever-expanding library of practice tests
-  **Send Question**  
Ask a question any time of day



# Coursera

**coursera**

Explore ▾

## IT Support Specialist

Evaluate and troubleshoot technology issues so equipment runs smoothly

### Median Salary

All occupations

\$37,960\*

**IT Support Specialist**

\$56,200\*\*

Job openings: 318,249\*\*

Projected 10 year growth: +10.6%\*\*\*



"I believe the certificate showed my then prospective employer proof of my skills and qualification especially coming from a global brand, Google."

– Chukwuma E.

### Recommended Professional Certificates



 Google

#### Google IT Support

Skills you'll gain: Debugging, Encryption Algorithms and Techniques, Customer Servic...

4.8 ★ (165.9k reviews)

Beginner · Professional Certificate · 6 months



 IBM

#### IBM IT Support

Skills you'll gain: Information Technology, Cybersecurity Essentials, IT Service...

4.8 ★ (1.1k reviews)

Beginner · Professional Certificate · 3 months

Explore all certificates →

# Gale Courses



Browse Catalog

Featured Popular New

- Accounting and Finance
- Business
- Computer Applications
- Design and Composition
- Healthcare and Medical
- Language and Arts
- Law and Legal
- Personal Development
- Teaching and Education
- Technology
- Writing and Publishing

- Certificate Prep
- Computer Fundamentals
- Computer Programming
- Data Science
- Database Management
- Graphic and Multimedia Design
- Networking and Communications
- Security
- Web Technology

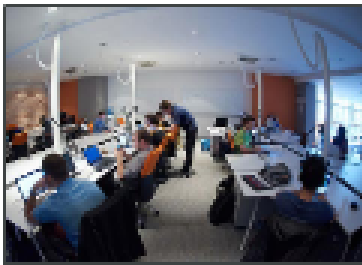


**Introduction to Java Programming**  
Learn about Java topics with clear, step-by-step instructions developed by an experienced Java programmer.

[Enroll Now](#)

[Learn More>>](#)

Course ⌚ 24 hours Start Date: Oct 18 | Nov 15 | Dec 13 | Jan 17

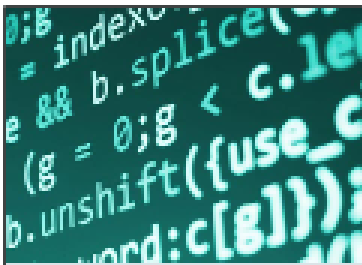


**Introduction to C++ Programming**  
Learn to program in C++, even if you have no prior programming experience!

[Enroll Now](#)

[Learn More>>](#)

Course ⌚ 24 hours Start Date: Oct 18 | Nov 15 | Dec 13 | Jan 17




**Introduction to Programming**  
Take your first steps toward a career as a computer programmer as you master basic programming concepts and get hands-on practice in writing applications containing GUIs, sound, and graphics.


[Enroll Now](#)


[Learn More>>](#)

Course ⌚ 24 hours Start Date: Oct 18 | Nov 15 | Dec 13 | Jan 17

# LinkedIn Learning

 Learning


 Home

 Browse

Business


Creative


Technology


 My Learning

My Library

My Goals

 Hands-On Practice

 Certifications

 Office Hours

## Technology

### Role Guides

Explore foundational content and tools to help you understand, learn, and improve at the skills involved in trending industry roles.

Data Analyst

Cyber Security Analyst

Cyber Security Specialist

Data Engineer

Data Scientist

Data Specialist

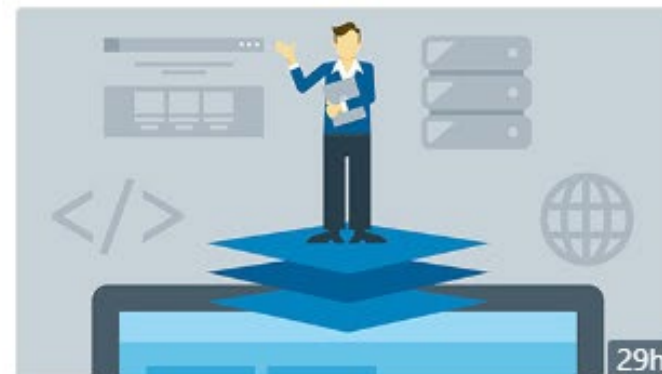
Database Administrator

Full Stack Engineer

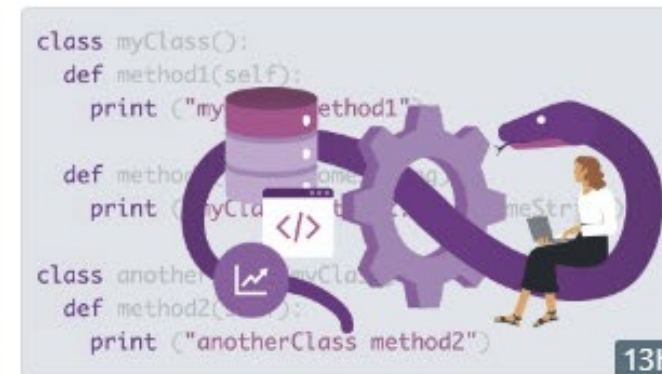
show more 

### Learning Paths

Show All



LEARNING PATH  
Become a Full-Stack Web Developer  
29h



LEARNING PATH  
Getting Started with Python  
13h



LEARNING PATH  
Explore a Career in Front-End Web  
Development  
25h



LEARNING PATH  
Advance Your Python  
Science  
25h



# Career Online High School & Adult Literacy Tutoring

- Child care (CDA)\*
- Commercial driving (CDL)\*
- Food and hospitality (CPFM)\*
- General career preparation
- Home care professional
- Hospitality and leisure
- Manufacturing
- Office management
- Retail customer service
- Security professional



careeronline  
HIGH SCHOOL



\*Prepares students to pursue the industry credential.

# Questions?

- **Casandra Keitges**

Adult Learning and Literacy Supervisor

– [ckeitges@saclibrary.org](mailto:ckeitges@saclibrary.org)

- **Suzy Murray**

Librarian, Collection Services

– [smurray@saclibrary.org](mailto:smurray@saclibrary.org)





**Celebrating**  
*25 Years*  
**of Transforming  
Lives Through  
Technology**

*October 14*  
[www.ByteBack25.com](http://www.ByteBack25.com)



# Get involved with Byte Back



**Andy Urrutia**

Sacramento Program Coordinator

[Aurrutia@byteback.org](mailto:Aurrutia@byteback.org)



[www.ByteBack.org](http://www.ByteBack.org)







OUR MISSION

TO CLOSE THE DIGITAL DIVIDE BY PROVIDING UNDER-RESOURCED COMMUNITIES AN EQUITABLE PATHWAY INTO THE DIGITAL ECONOMY.

WE ACHIEVE THIS THROUGH TRANSFORMATIVE DIGITAL ADVOCACY, DIGITAL LITERACY, & TECH CERTIFICATION TRAINING.

VISION

WE ENVISION A WORLD WHERE ALL INDIVIDUALS AND COMMUNITIES CAN FULLY PARTICIPATE IN OUR DIGITAL SOCIETY, DEMOCRACY, AND ECONOMY.





# Upskilling with Digital Skills

Digital literacy skills are the bridge to work, health, and education.

## Who We Serve:

**64%** in 30s, 40s, and 50s

**90%** BIPOC

**66%** Women

**80%** Unemployed

**80%** No College Degree







# 360

## DIGITAL NAVIGATORS

[www.Byteback.org/DigitalNavigators](http://www.Byteback.org/DigitalNavigators)







## Get Certified As A 360 Digital Navigator!

### Benefits:

**-FREE**

**-Qualify for our PAID campaign**



## What are the 360 Digital Navigators?

- u **Byte Back's 360 Digital Navigators is our community-2-community approach to closing the digital divide. 360 Digital Navigators are equipped with the skills, resources, and knowledge necessary to support fellow community members with gaining access to the internet and navigating everyday digital tasks imperative to work, health, education, and life opportunities.**





# Who Are Digital Navigators?

- Digital Navigators are trusted members of their communities and play a critical role in bridging the digital divide by supporting fellow community members with digital tasks and getting them connected to resources such as reliable and affordable internet service, devices, and digital skills.
- Navigators are trained digital equity volunteers or staff who already work in nonprofits, social service agencies, educational and faith-based institutions, libraries, healthcare, and more.





# Training Outline

**Digital Navigators 101:** This training teaches the fundamentals of adult learning science, effective teaching strategies, and how to work with someone new to the digital world. This training includes:

- Adult education, learning theory basics, and evidence-based best practices.
- Includes a post-training check-in to discuss challenges faced while in the community and best practices learned.

# Training Outline

**Digital Navigators 102:** This training builds upon DN 101 by simulating digital literacy training on key topics Navigators can expect to cover. These include but aren't limited to...

- The basics of the computer & safely navigating the internet
- Emailing & managing computer files
- Microsoft Windows OS (Operating System)
- Navigating educational resources, and other online services
- Telehealth & financial/banking applications
- Common workspace tools like Google Docs, Zoom, and Slack
- In-depth simulations that model Navigators' community-based interactions





[www.Byteback.org/DigitalNavigators](http://www.Byteback.org/DigitalNavigators)



**Through this initiative we will certify hundreds of direct service workers as Byte Back 360 Digital Navigators and support thousands of community members!**

# » Program Offerings and College Partnerships



**Shawn Monsen**  
**Information Technology Instructor**



# Our Programs

Cybersecurity



Data Analytics



Network  
Technician



IT Technician



INFORMATION TECHNOLOGY  
DEPARTMENT

# Sierra College Internships



- Partner with local businesses
- Students get real-world, hands-on experience
- Breaks the experience/employment “catch-22”
- Students get 1 – 4 Units of credit towards their degree
- Business gets talented and eager resources for entry-level jobs or special projects
- Opportunity to preview employee fit before committing to full-time employment
- Gives businesses an opportunity to give back to the community





SWINERTON



**SIERRA COLLEGE**





# Local Employer Partners



- City of Roseville
- Sutter Health
- Emergency Medical Services Authority
- City of Sacramento
- El Dorado County
- Pulse Technology
- CalSTRS
- Placer County
- Swinerton Construction

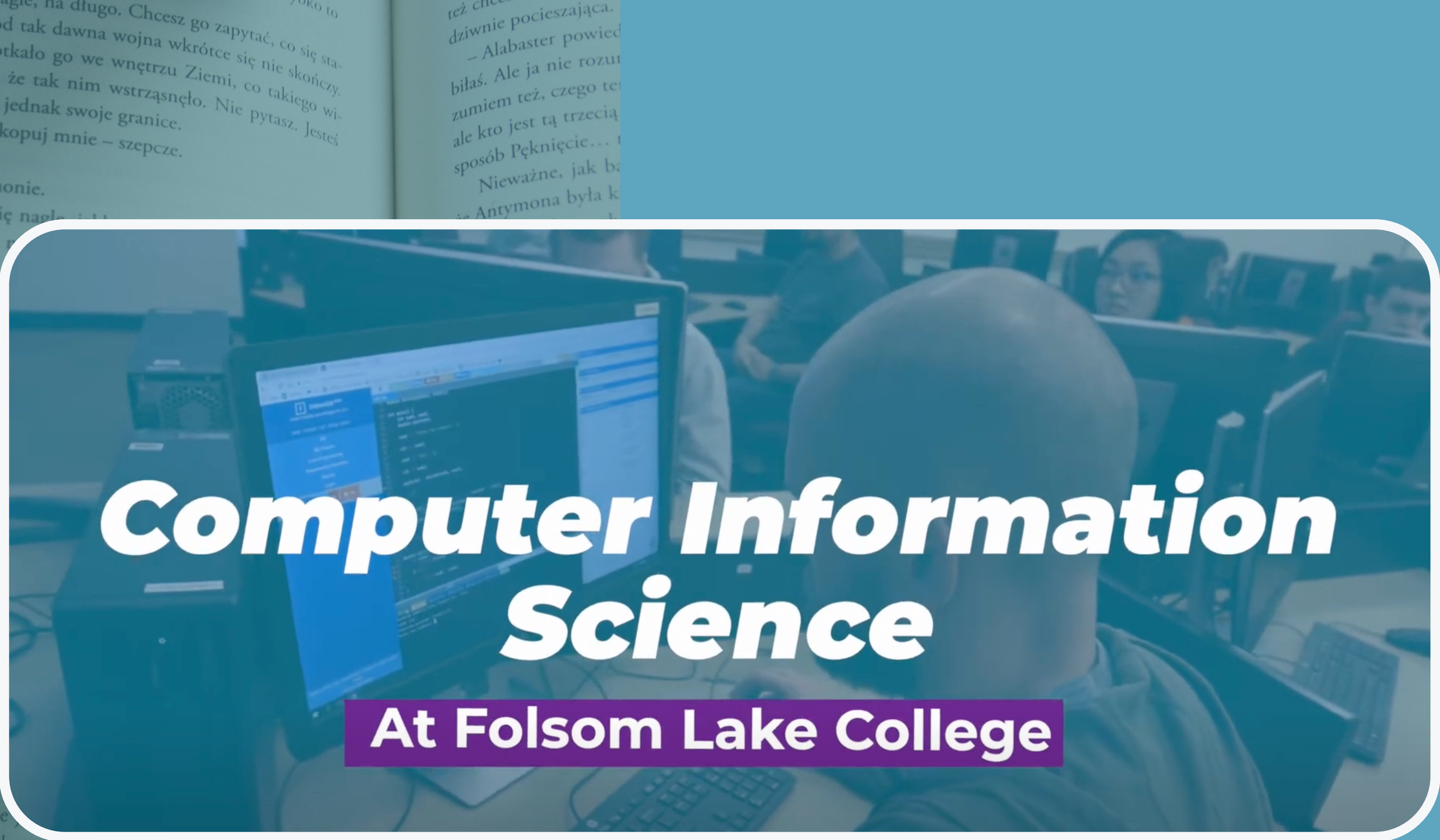
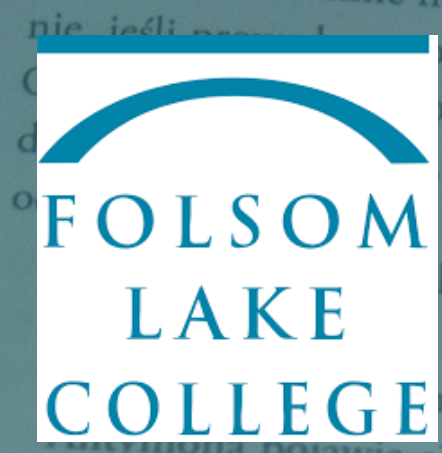
# IT Program Industry Certifications



- CompTIA A+
- CompTIA Network+
- CompTIA Security+
- CompTIA Pentest+
- CompTIA CySA+
- Data+
- Cisco CCNA
- EC Council Certified Ethical Hacker (CEH)
- Association of Computer Investigative Specialists (IACIS)
- AWS Certified Cloud Practitioner\*







# ***Computer Information Science***

**At Folsom Lake College**



# Vision 2030: Generative AI in Higher Education Series

[Zoom Series Reg Link](#)

Semester 1					
COURSE	UNITS	PRE-REQS*	SEMESTERS OFFERED*	GE AREA	
ACCT 301 Financial Accounting	4		F, S		
BUS 310 Business Communications	3		F, S	II(a)	
BUS 302 Introduction to Business Analysis	3		F, S		
Life Development Skills	3		F, S	III(b)	I

Semester 2					
COURSE	UNITS	PRE-REQS*	SEMESTERS OFFERED*	GE AREA	
ACCT 311 Managerial Accounting	4	ACCT 301	F, S		
STAT 300 Introduction to Probability and Statistics	4		F, S	II(b)	
COMM 301 Introduction to Public Speaking	3		F, S		
BUS 303 Introduction to Business Data and Data Analytics	3		F, S		
Degree Applicable Elective	2		F, S		

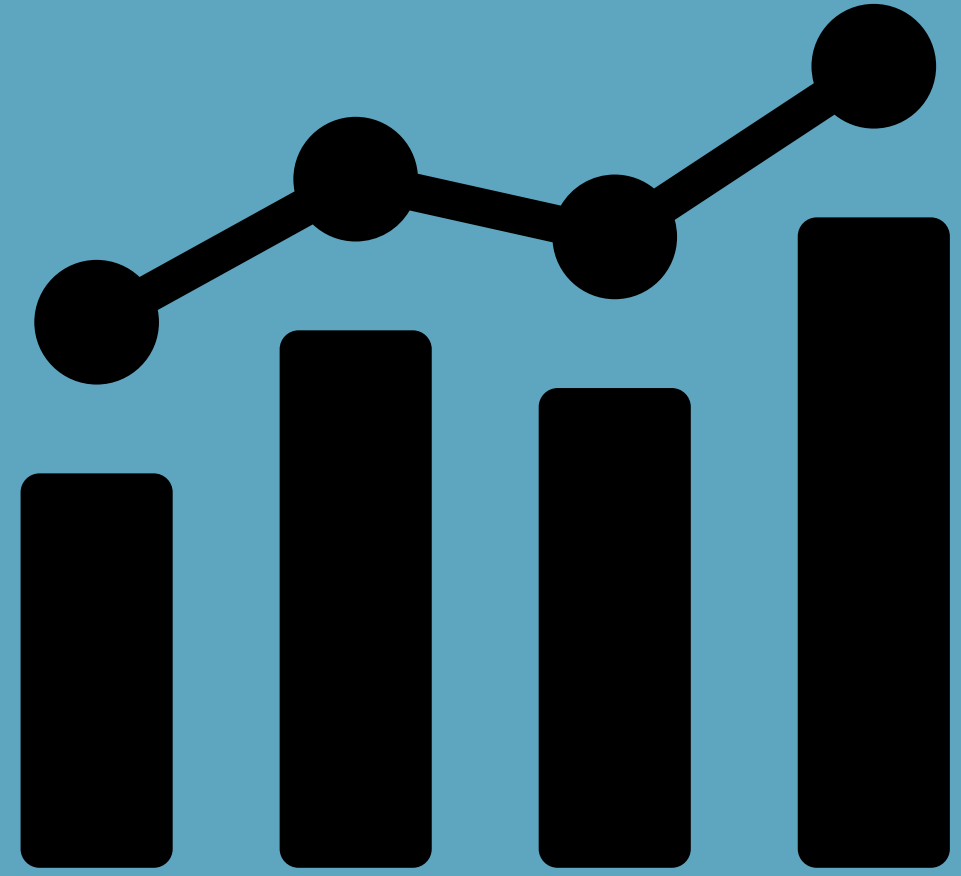
  

Semester 3					
COURSE	UNITS	PRE-REQS*	SEMESTERS OFFERED*	GE AREA	
ACCT 341 Computerized Accounting	3		F, S		
ECON 304 Principles of Microeconomics	3	ACCT 301	F, S		
PRJMG 300 Introduction to Project Management	3		F, S		
Major Elective*	3		F, S		V(b)
Natural Science	3		F, S		

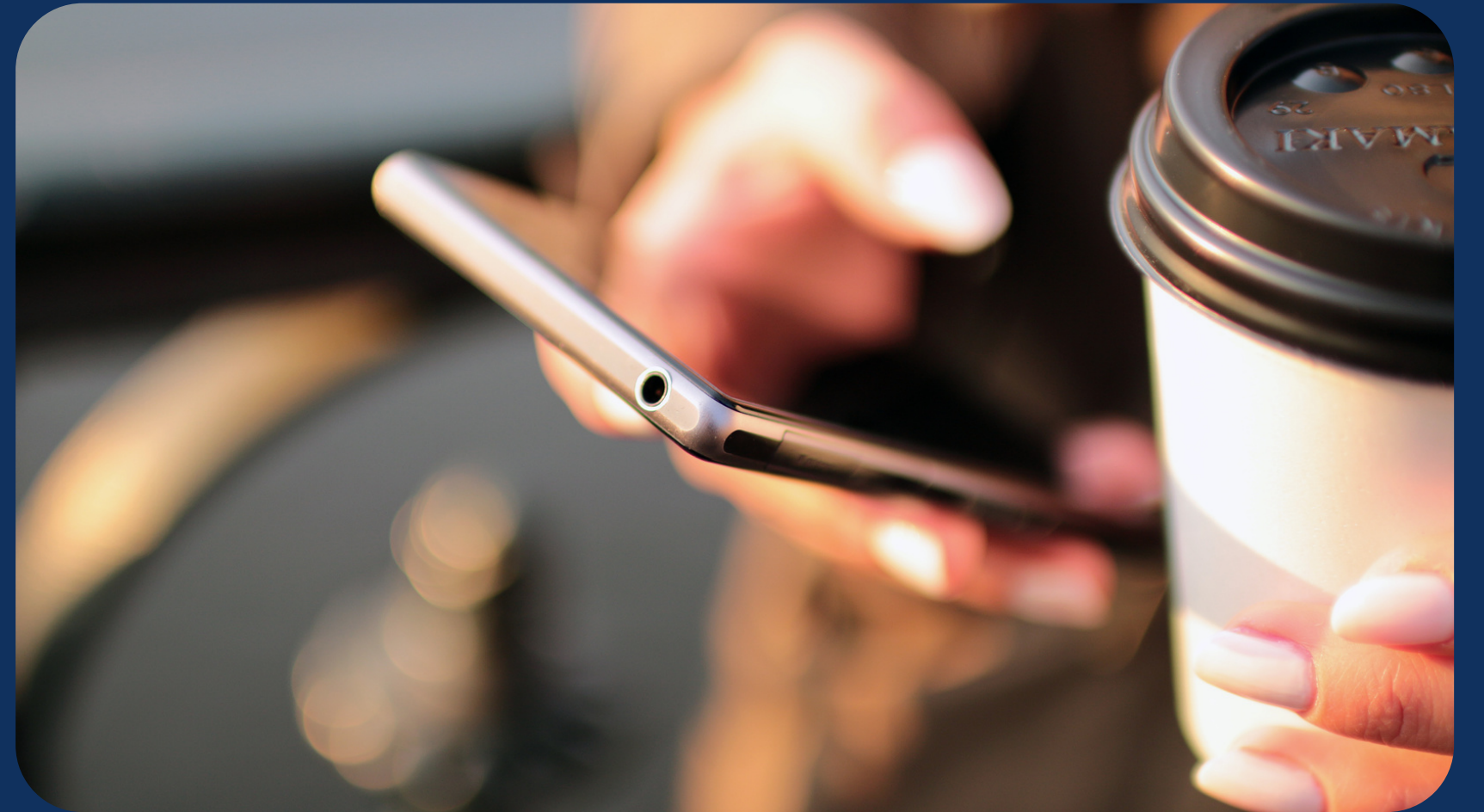
Semester 4					
COURSE	UNITS	PRE-REQS*	SEMESTERS OFFERED*	GE AREA	
Social/Behavioral Science	3		F, S		
Ethnic/Multicultural Studies	3		F, S	V(b)	
Physical Education Activity	1		F, S	VI	
American Institutions	3		F, S	III(a)	
Degree Applicable Elective	3		F, S	V(a)	

- DATA ANALYST
- SUPPORT COURSES
- AI COURSEWORK





# Live Polling with Mentimeter





**Before you go please complete this Evaluation Form**



**Scan Here to Fill Out Our Post-Event Survey**



# ➤ Upcoming Events

- Energy, Construction, and Utilities: Water Related Careers on October 27 1:30pm-3:30pm | Hybrid | 10 College Pkwy, Folsom, CA 95630



Register for our  
Livability Summit –  
2023 by Scanning this  
QR Code!





# ➤ Thank you for joining!

For more information, please contact:

Alena Anberg, Assistant Director of Employer Partnership - North  
Far North, [aanberg@shastacollege.edu](mailto:aanberg@shastacollege.edu)

Hilary Tellesen, Project Leader, Valley Vision  
[hilary.tellesen@valleyvision.org](mailto:hilary.tellesen@valleyvision.org)

Gustavo Garcia, Project Coordinator, Valley Vision  
[gustavo.garcia@valleyvision.org](mailto:gustavo.garcia@valleyvision.org)