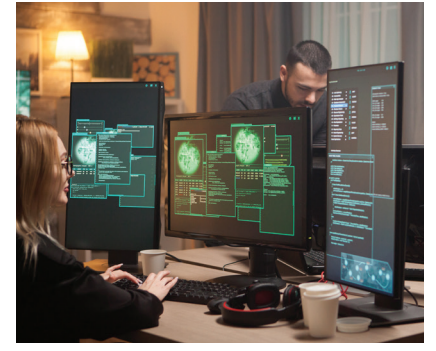


CAREER PATHWAYS AND COMPETENCY MAPS



INFORMATION & COMPUTERS



REPORT OVERVIEW

Employ Prince George's (EPG) and the Prince George's County Workforce Development Board (PGCWDB) partnered with CAEL in 2024 to develop Career Pathway and Competency Maps for the in-demand Information & Computers sector in Prince George's County and surrounding areas. This initiative identifies key occupations and outlines the necessary skills, credentials, experience, and education for entry and advancement.

Grounded in labor market data (BLS, Lightcast, O*Net) and validated by local Information & Computers businesses through our Business Advisory Council, these maps provide a clear understanding of critical competencies and career paths. They serve as a practical tool for job seekers to navigate opportunities, understand earning potential, and identify entry and transition points. For employers, these maps facilitate talent acquisition and development by establishing a shared understanding of required skills. This is a dynamic resource that will be updated to reflect evolving labor market needs.

PURPOSE

In today's rapidly evolving economy, marked by automation and significant industry shifts, both job seekers and employers face a critical need for clarity and direction. How can individuals adapt their existing skills to seize new opportunities in high-growth sectors? How can businesses ensure they have access to the talent they need to thrive?

Employ Prince George's and the Prince George's County Workforce Board recognized this imperative and proactively partnered with CAEL to create a tangible and actionable solution: these Career Pathway and Competency Maps for the Information & Computers sector. This report serves as a vital bridge, connecting Prince George's County residents with in-demand career paths and providing a clear understanding of the competencies required for success at every stage.

Our purpose is twofold: to empower Prince George's County job seekers with the knowledge and insights needed to navigate the Information & Computers landscape, understand the value of their existing skills, and chart a course for career advancement. Simultaneously, we aim to equip local employers with a robust framework for identifying, recruiting, and developing the talent necessary to drive their businesses forward. By illuminating the critical competencies and career pathways within this vital sector, this report will inform strategic resource allocation and foster a more aligned and responsive workforce development ecosystem for the entire region.



INDUSTRY-WIDE FOUNDATIONAL COMPETENCIES

Foundational Competencies are defined as core competencies that provide a foundation for success in school and the world of work. Nationally, employers have identified a link between foundational competencies and job performance, often prerequisites for workers to learn new industry-specific competencies. Foundational competencies are broken down into three categories as defined below:

INFORMATION & COMPUTERS: INDUSTRY-WIDE FOUNDATIONAL COMPETENCIES

PERSONAL EFFECTIVENESS COMPETENCIES

These competencies are essential for all life roles, such as being a member of a family, a community, and a larger society. These “soft skills” are increasingly valued in the labor market.

- ⊗ **Adaptability**
- ⊗ **Communication**
- ⊗ **Dependability**
- ⊗ **Flexibility**
- ⊗ **Initiative**
- ⊗ **Integrity**
- ⊗ **Lifelong Learning**
- ⊗ **Professionalism**
- ⊗ **Teamwork**

EDUCATION COMPETENCIES

These are critical competencies primarily learned in an academic setting, as well as cognitive functions and thinking styles. These competencies will likely apply to all organizations in a single industry or be represented by an industry association.

- ⊗ **Analytical Thinking**
- ⊗ **Compliance**
- ⊗ **Critical Thinking**
- ⊗ **Databases and Applications**
- ⊗ **Fundamental IT User Skills**
- ⊗ **Mathematics**
- ⊗ **Negotiation Skills**
- ⊗ **Principles of Information Technology**
- ⊗ **Reading**
- ⊗ **Risk Management**
- ⊗ **Software Development**
- ⊗ **Writing**



WORKPLACE COMPETENCIES

These competencies represent those competencies and abilities that allow individuals to function in an organizational setting.

- ⊗ **Business Fundamentals**
- ⊗ **Change Management**
- ⊗ **Data Visualization**
- ⊗ **Decision Making**
- ⊗ **Digital Media**
- ⊗ **Health**
- ⊗ **Innovative Thinking**
- ⊗ **Organizing**
- ⊗ **Planning**
- ⊗ **Problem Solving**
- ⊗ **Project Management**
- ⊗ **Cyber Safety**
- ⊗ **Collaboration**
- ⊗ **User and Computer Support**
- ⊗ **Working with Technologies**
- ⊗ **Working with Tools**

Background checks and security clearances may be required depending on employer and project work.



TELECOMMUNICATIONS LINE INSTALLERS & REPAIRERS

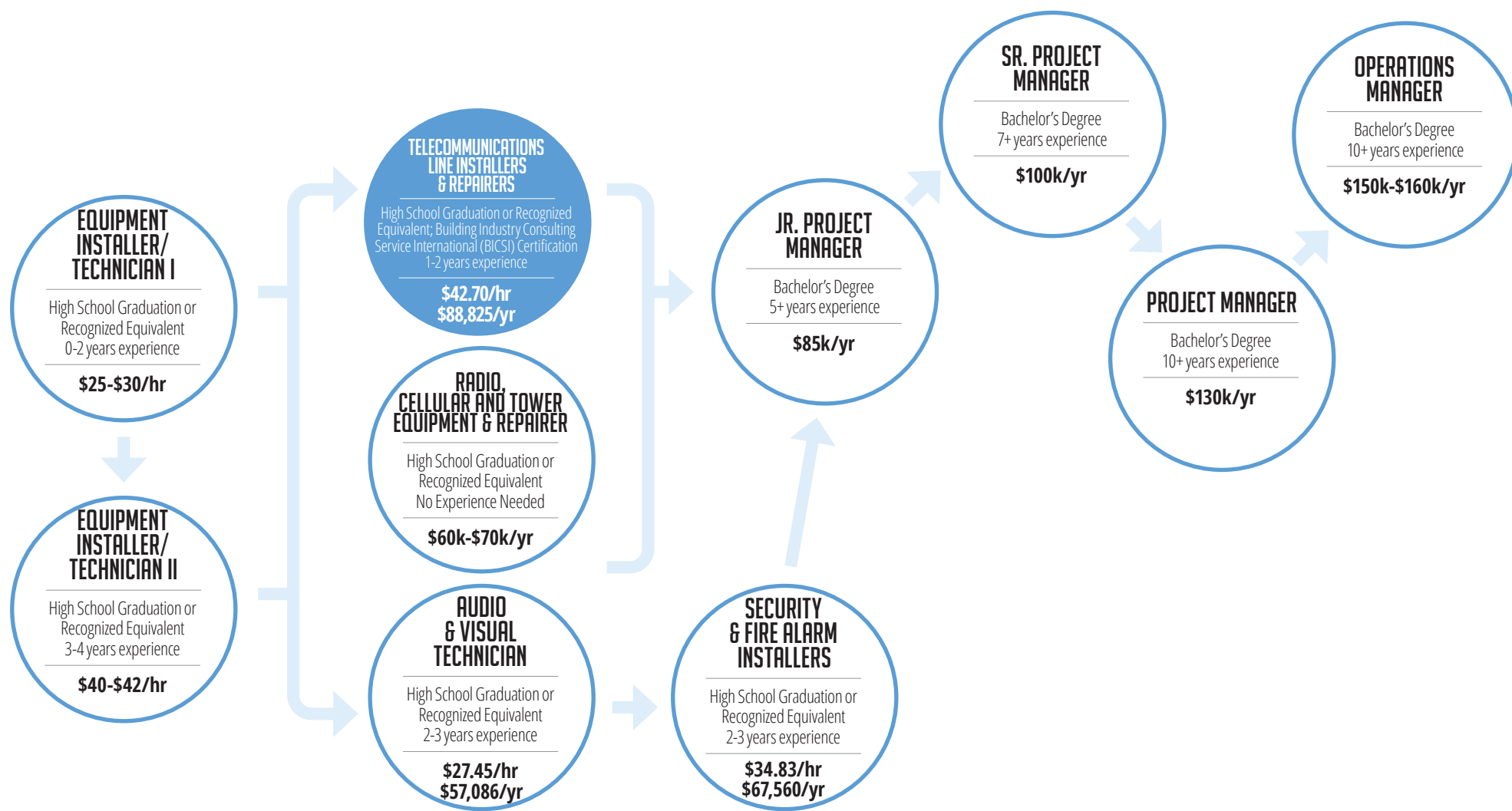
JOB DESCRIPTION	Install, maintain, and repair telecommunications equipment, including routers, switches, and fiber-optic cables.			
KEY FOUNDATIONAL COMPETENCIES	⌚ Networking Cabling	⌚ Operations Monitoring	⌚ Public Safety and Security	
	⌚ Equipment Maintenance	⌚ Mechanical		
COMMON SKILLS	⌚ Technical aptitude	⌚ Troubleshooting	⌚ Customer service	⌚ Coordination
WORK ENVIRONMENT	Fieldwork, Outdoor Sites, Heights			
MEDIAN SALARY	\$42.70/hour, \$88,825/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	1-2 Years Experience			
REQUIRED TECHNOLOGIES	⌚ Email	⌚ Workforce management system software		
	⌚ Microsoft Office			
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	Valid Driver’s License, Building Industry Consulting Service International (BICSI) Certification			
OTHER JOB TITLES/ ROLES	Cable Splicer, Cable Technician, Cable Television Technician (Cable TV Tech), Combination Technician, Field Service Technician, Installation and Repair Technician (I and R Technician), Installer, Lineman, Outside Plant Technician, Service Technician			



TELECOMMUNICATIONS LINE INSTALLERS & REPAIRERS

TELECOMMUNICATIONS LINE INSTALLERS & REPAIRERS PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.





HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: CYBERSECURITY CAREER PATHWAY

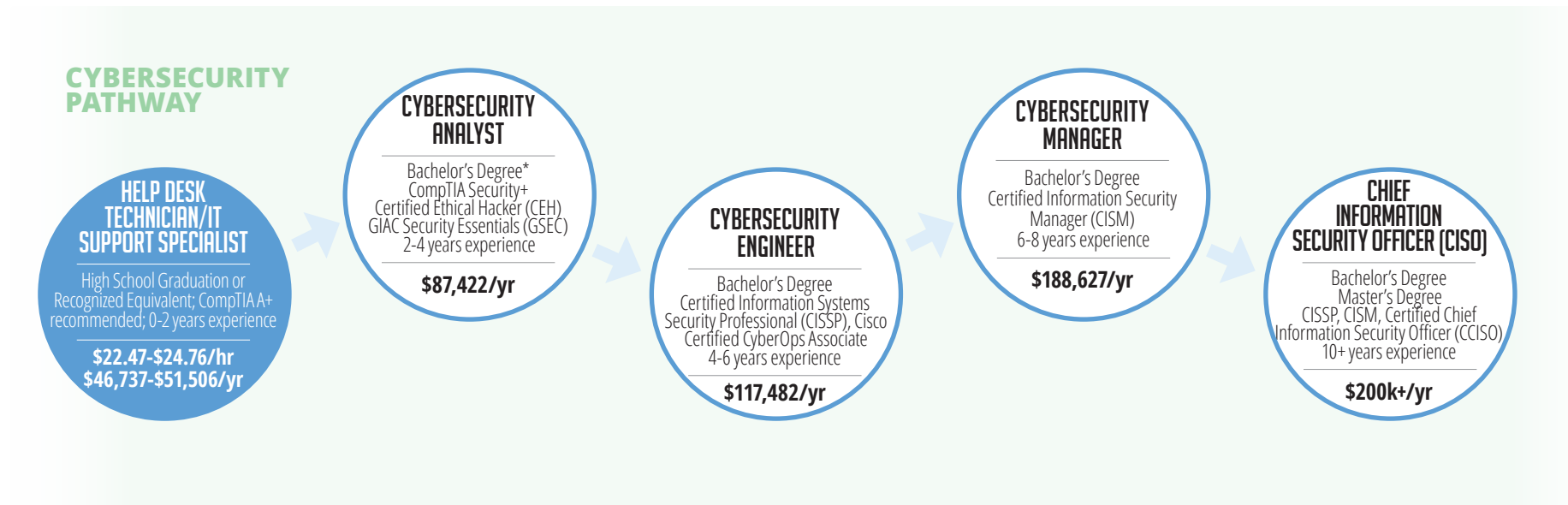
JOB DESCRIPTION	A Help Desk Technician/IT Support Specialist provides technical assistance to users by diagnosing and resolving computer, software, network, and hardware issues. They are often the first point of contact for troubleshooting problems, answering questions, and ensuring that technology systems run smoothly and efficiently.			
KEY FOUNDATIONAL COMPETENCIES	② Information Systems ② Customer Service	② Help Desk Support ② Technical Support	② Operating Systems ② Active Directory	② Computer Hardware ② Peripheral Devices
COMMON SKILLS	② Troubleshooting ② Communications	② Problem Solving ② Detail Oriented	② Coordination ② Verbal Communication Skills	② Planning
MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	0-2 years			
REQUIRED TECHNOLOGIES	② Active Directory ② Operating Systems ② Microsoft Office	② Microsoft Office 365 ② ServiceNow ② Microsoft Excel	② Microsoft Windows ② Microsoft Outlook ② Apple IOS	② Microsoft Windows 10
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: CYBERSECURITY CAREER PATHWAY

CYBERSECURITY PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.



*Education requirement dependent on employer



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: DATA CAREER PATHWAY

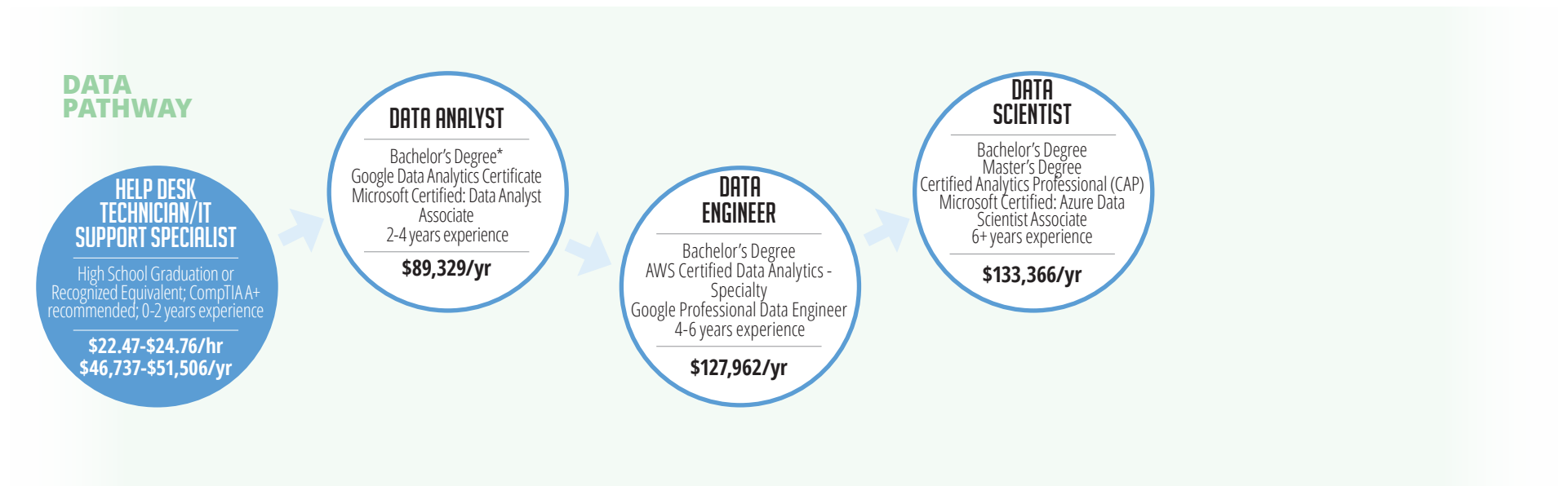
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MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
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SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: DATA CAREER PATHWAY

DATA PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.



*Education requirement dependent on employer



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: SOFTWARE CAREER PATHWAY

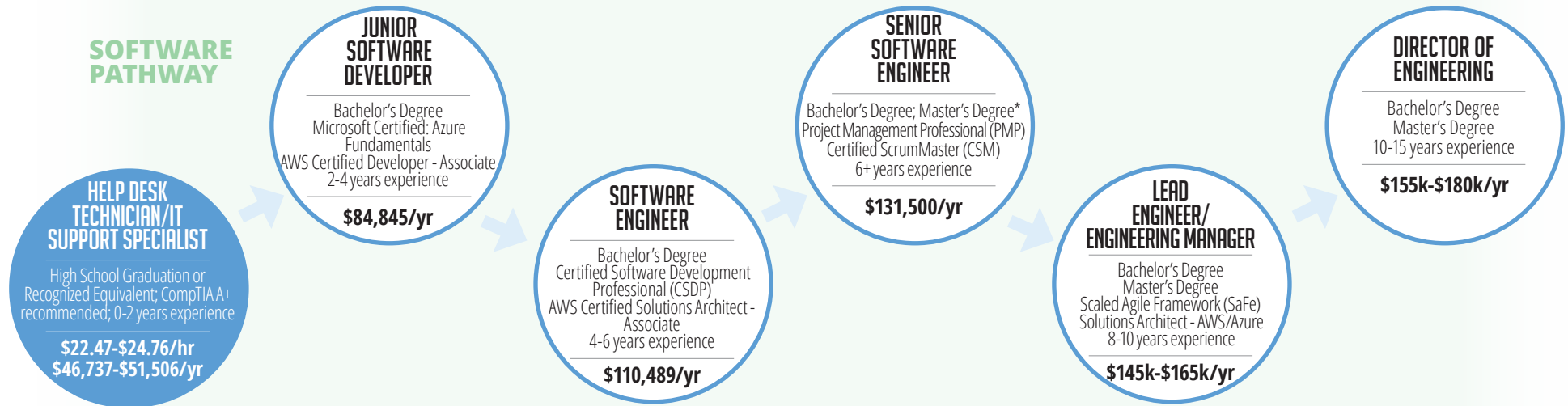
JOB DESCRIPTION	A Help Desk Technician/IT Support Specialist provides technical assistance to users by diagnosing and resolving computer, software, network, and hardware issues. They are often the first point of contact for troubleshooting problems, answering questions, and ensuring that technology systems run smoothly and efficiently.			
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COMMON SKILLS	② Troubleshooting ② Communications	② Problem Solving ② Detail Oriented	② Coordination ② Verbal Communication Skills	② Planning
MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	0-2 years			
REQUIRED TECHNOLOGIES	② Active Directory ② Operating Systems ② Microsoft Office	② Microsoft Office 365 ② ServiceNow ② Microsoft Excel	② Microsoft Windows ② Microsoft Outlook ② Apple IOS	② Microsoft Windows 10
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: SOFTWARE CAREER PATHWAY

SOFTWARE PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.



*Education requirement dependent on employer



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: CLOUD CAREER PATHWAY

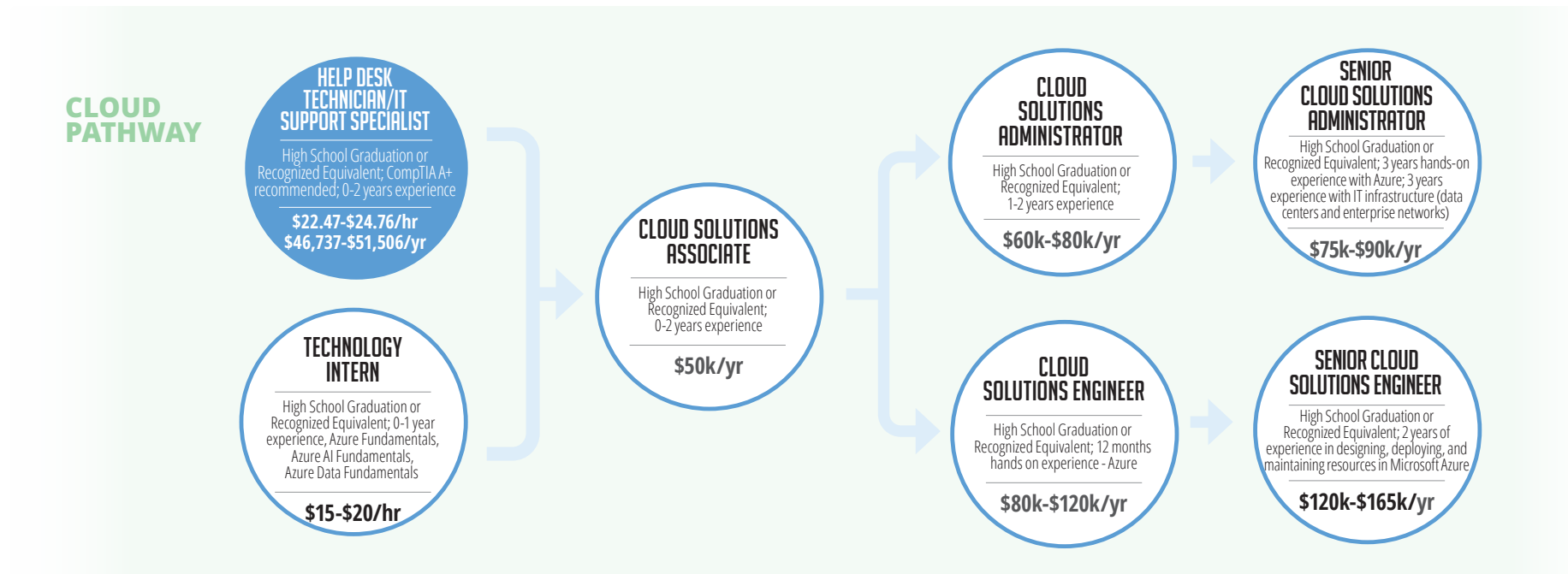
JOB DESCRIPTION	A Help Desk Technician/IT Support Specialist provides technical assistance to users by diagnosing and resolving computer, software, network, and hardware issues. They are often the first point of contact for troubleshooting problems, answering questions, and ensuring that technology systems run smoothly and efficiently.			
KEY FOUNDATIONAL COMPETENCIES	② Information Systems ② Customer Service	② Help Desk Support ② Technical Support	② Operating Systems ② Active Directory	② Computer Hardware ② Peripheral Devices
COMMON SKILLS	② Troubleshooting ② Communications	② Problem Solving ② Detail Oriented	② Coordination ② Verbal Communication Skills	② Planning
MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	0-2 years			
REQUIRED TECHNOLOGIES	② Active Directory ② Operating Systems ② Microsoft Office	② Microsoft Office 365 ② ServiceNow ② Microsoft Excel	② Microsoft Windows ② Microsoft Outlook ② Apple IOS	② Microsoft Windows 10
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: CLOUD CAREER PATHWAY

CLOUD PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.



Employ Prince George's partnered with local employer, Cloudforce, to develop cloud-based career pathways. Reference Cloudforce Career Pathways and Competency Report for further details.



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: NETWORK CAREER PATHWAY

JOB DESCRIPTION	A Help Desk Technician/IT Support Specialist provides technical assistance to users by diagnosing and resolving computer, software, network, and hardware issues. They are often the first point of contact for troubleshooting problems, answering questions, and ensuring that technology systems run smoothly and efficiently.			
KEY FOUNDATIONAL COMPETENCIES	② Information Systems ② Customer Service	② Help Desk Support ② Technical Support	② Operating Systems ② Active Directory	② Computer Hardware ② Peripheral Devices
COMMON SKILLS	② Troubleshooting ② Communications	② Problem Solving ② Detail Oriented	② Coordination ② Verbal Communication Skills	② Planning
MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	0-2 years			
REQUIRED TECHNOLOGIES	② Active Directory ② Operating Systems ② Microsoft Office	② Microsoft Office 365 ② ServiceNow ② Microsoft Excel	② Microsoft Windows ② Microsoft Outlook ② Apple IOS	② Microsoft Windows 10
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			

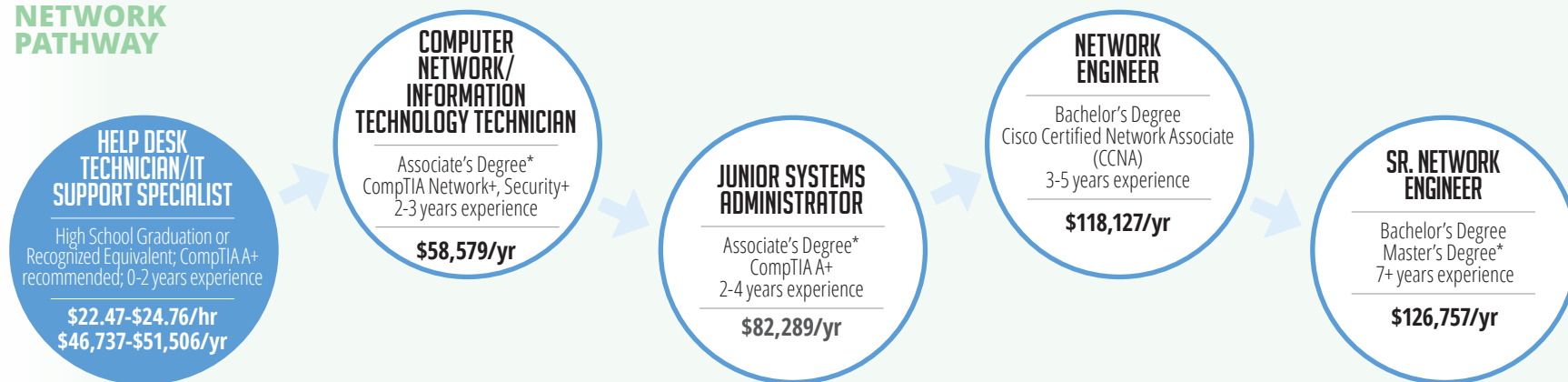


HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: NETWORK CAREER PATHWAY

NETWORK PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.

NETWORK PATHWAY



*Education requirement dependent on employer



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: PROJECT MANAGEMENT CAREER PATHWAY

JOB DESCRIPTION	A Help Desk Technician/IT Support Specialist provides technical assistance to users by diagnosing and resolving computer, software, network, and hardware issues. They are often the first point of contact for troubleshooting problems, answering questions, and ensuring that technology systems run smoothly and efficiently.			
KEY FOUNDATIONAL COMPETENCIES	② Information Systems ② Customer Service	② Help Desk Support ② Technical Support	② Operating Systems ② Active Directory	② Computer Hardware ② Peripheral Devices
COMMON SKILLS	② Troubleshooting ② Communications	② Problem Solving ② Detail Oriented	② Coordination ② Verbal Communication Skills	② Planning
MEDIAN WAGE/SALARY	\$22.47-\$24.76/hour, \$46,737-\$51,506/year			
EDUCATION AND TRAINING	High School Graduation or Recognized Equivalent Apprenticeship Opportunities in the Industry			
WORK EXPERIENCE	0-2 years			
REQUIRED TECHNOLOGIES	② Active Directory ② Operating Systems ② Microsoft Office	② Microsoft Office 365 ② ServiceNow ② Microsoft Excel	② Microsoft Windows ② Microsoft Outlook ② Apple IOS	② Microsoft Windows 10
SPECIAL SKILLS, COMPETENCIES, OR LICENSES	CompTIA A+			
OTHER JOB TITLES/ ROLES	Help Desk Analysts , IT Specialists, Roadway Project Managers, IT Support Technicians, Desktop Support Managers, IT Support Specialists, Service Desk Analysts, Desktop Support Analysts			



HELP DESK TECHNICIAN/IT SUPPORT SPECIALIST: PROJECT MANAGEMENT CAREER PATHWAY

PROJECT MANAGEMENT PATHWAY

The pathway below represents a typical career pathway in the ever-changing industry of Information & Computers. The highlighted circle represents the occupation in the pathway.

PROJECT MANAGEMENT PATHWAY



*Education requirement dependent on employer

RESOURCES

Jobseekers exploring new opportunities, businesses seeking skilled talent to stay competitive, and community stakeholders aiming to meet these evolving needs can explore Prince George's County's dynamic workforce ecosystem through a variety of online resources.

- ④ To locate an American Job Center access point:
<https://pgcajc.com/job-location/>
- ④ American Job Center Community Network:
<https://pgcajc.com/>
- ④ Prince George's County Virtual Career Center:
<pgccareers.com>
- ④ Employ Prince George's Local Training Provider List:
<https://www.employpg.org/local-tpl-search/>



ABOUT EMPLOY PRINCE GEORGE'S INC.

Employ Prince George's, Inc. is a 501c3 nonprofit that serves as the principal workforce development entity for Prince George's County Government. Our mission is to improve the local economy by creating a demand-driven workforce system, and workforce development programs that deliver qualified workers to businesses, improves the productivity of businesses, and provides jobseekers with opportunities for career in high demand/high growth industries. employpg.org



ABOUT PRINCE GEORGE'S COUNTY WORKFORCE DEVELOPMENT BOARD

The Prince George's County Workforce Development Board (WDB) is a dynamic group of private and public sector partners that provides leadership, direction, and policy oversight for the Prince George's County Public Workforce System. Our mission is to be a Workforce Development Board that drives the innovation, integration, continuity, productivity, and efficiency of a workforce system that produces a robust, qualified, and skilled workforce that meets the needs of the business community.

<https://pgcajc.com/workforce-board/>



PRINCE GEORGE'S COUNTY AMERICAN JOB CENTER COMMUNITY NETWORK

The Prince George's County American Job Center Community Network is a collective of community-based organizations, government agencies, nonprofit organizations, libraries, service providers, educational institutions, employers, community leaders, and faith-based organizations providing a full range of services connecting job seekers to training and employment opportunities in the Washington Metropolitan Area. The American Job Center Community Network is a free membership network with over 240 community partners working together to support job seekers and the workforce pipeline. <https://pgcajc.com/>



ABOUT THE COUNCIL FOR ADULT AND EXPERIENTIAL LEARNING

Recognizing that adult learners are the backbone of the U.S. economy, CAEL helps forge a clear, viable connection between education and career success, providing solutions that promote sustainable and equitable economic growth. CAEL opens doors to opportunity in collaboration with workforce and economic developers; postsecondary educators; employers and industry groups; foundations and other mission-aligned organizations. By engaging with these stakeholders, we foster a culture of innovative, lifelong learning that helps individuals and their communities thrive. A membership organization established in 1974, CAEL is a part of Strada Collaborative, a mission-driven nonprofit. Learn more at cael.org.



The Industry Bridge Programs at Employ Prince George's are driven by the input and work of the Business Advisory Councils. Industry leaders who serve on the Business Advisory Councils work collaboratively to identify and address the unprecedented challenges and opportunities that exist in the sector. Business Advisory Council members also confirm labor market insight and provide input to steer the workforce pipeline for their respective industries, and help provide training and employment opportunities as appropriate.



Thank You!

Thanks to the employers for their time and efforts in creating these maps and pathways!

3DTECH, LLC

ASHA-IT

BCAUSICAN

BROADBAND CONNECT LLC

CLOUDFORCE

**EY3 TECHNOLOGIES AT
SB ENGINEERING
SOLUTIONS LLC**

KAPPSTONE MEDIA

MICROSOFT

OBAN CORPORATION

SPC BUSINESS CONSULTING

TAKE IT FURTHER TECH

