

IT Careers Start@DoIT

State CIO Office Special Recognition

State of Illinois
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EXECUTIVE SUMMARY

In October 2023, Governor JB Pritzker unveiled an ambitious initiative with the launch of the Illinois Department of Innovation & Technology's (DoIT) paid Information Technology (IT) Trainee Program. The program serves a multifaceted purpose of addressing the burgeoning demand for tech professionals, enhancing workforce diversity, and cultivating a pool of skilled talent for the future.

The inaugural cohort began in January 2024, carefully chosen from a robust pool of nearly 2,000 applicants, embarking on specialized tracks encompassing crucial areas such as cybersecurity, networking, coding, and database. What sets this program apart is its commitment to mentorship, with trainees benefiting from formal guidance provided by seasoned DoIT professionals.

To optimize the training experience, DoIT forged strategic partnerships with Lincoln Land Community College in Springfield, Illinois and City Colleges of Chicago, the public community college system of the Chicago area. Lincoln Land Community College has played a pivotal role in crafting the core curriculum, establishing dedicated training sites, with the Springfield cohort hosted at a Lincoln Land facility. Simultaneously, collaboration with City Colleges of Chicago extends the program's accessibility, providing a Chicago-based training site.

Beyond the educational component, the program offers a competitive salary to trainees, coupled with the promise of a full-time position within DoIT upon successful completion of the program. This combination of formal instruction, hands-on training, and the opportunity to contribute to state government initiatives sets up participants to play a pivotal role in shaping the technological landscape of Illinois.

IDEA

With rapid changes and advancements in technology, there is an increasing demand for IT professionals capable of navigating diverse fields such as cybersecurity, coding, networking, and enterprise infrastructure. With the fluid technical landscape and increased competition with large, global technical competitors, government agencies face significant challenges in recruiting and retaining such talent.

DoIT, like many public sector entities, struggled to fill the technical talent gaps needed to fulfill the State of Illinois technology and digital service needs. The department suffered from low applicant pools, candidates lacking the relevant skills, and a shrinking workforce with little ability to grow and develop to meet DoIT's current and future needs. With the constraints on the workforce and the need to increase digital services through technology for the State of Illinois, a long-term strategy of workforce acquisition and development was envisioned with an initial focus of creating a multi-layered IT Trainee pipeline program.

DoIT's new IT Trainee Program addresses these gaps by providing structured training, mentorship, and hands-on experience to develop a proficient IT workforce. This IT Trainee Program offers a comprehensive pathway for individuals aspiring to grow in the field of IT.

The program also addresses the critical need for a skilled IT workforce and allows DoIT to grow its own talent by focusing on skill development that will most meet DoIT's needs. A skilled IT workforce is essential for the successful execution of DoIT's initiatives and projects. By investing in workforce development, DoIT can ensure it has the talent needed to not only meet its current needs but also its future needs.

IMPLEMENTATION

The program offers a structured curriculum focusing on foundational technical knowledge and practical skills development, supplemented by expert mentorship from seasoned professionals at DoIT. This holistic approach ensures trainees are well-equipped to navigate the complexities of the IT landscape.

DoIT collaborates with the area community colleges, universities, and nationally recognized certification (CompTIA) programs, enhancing trainees' educational experiences and providing tangible credentials for their future career advancement. While tailored to the specific needs of DoIT and the State of Illinois, the program addresses universal challenges faced by government agencies nationwide through direct development of an IT workforce. The demand for skilled IT professionals transcends geographic boundaries, making this initiative universally relevant and adaptable to other states' workforce development needs.

DoIT, like many organizations, struggled to fill the technical talent gaps needed to fulfill the State of Illinois technology and digital service needs. Common symptoms included low applicant pools, candidates with relevant skill gaps, and a shrinking workforce with little ability to grow and develop with DoIT's current and future needs. With the constraints on the workforce and the need to increase digital service by leveraging technology for the State of Illinois, a long-term strategy of workforce acquisition and development was put in place focused on creating a multi-layered IT Trainee pipeline program.

The program was conceptualized and developed by the joint team effort of the DoIT Office of Human Resources (HR) and the Office of the Chief Technology Officer (CTO). The team spearheaded a collaborative effort to address the critical skill gap and talent shortage within DoIT. Recognizing the pressing need for action, they convened a dedicated team to explore viable solutions. Through meticulous collaboration, they identified the need for a robust IT Trainee Program to bridge talent shortages in key areas such as end user computing, networking, cybersecurity, and application development, while addressing overarching skill gaps within DoIT. This collaborative effort culminated in the development of a comprehensive roadmap, delineating the program's objectives, curriculum, and key stakeholders involved.

Collaboratively the HR Director and CTO defined the job parameters and determined the requisite training courses to cultivate strong candidates for DoIT. With a clear vision in mind, the team presented the program concept to DoIT leadership, underscoring its potential to address workforce development needs and foster innovation within DoIT. Through persistent dialogue and compelling presentations, they garnered buy-in from IT leadership, effectively outlining each division's pivotal role in ensuring the program's success. In a concerted effort to augment internal resources, the team embarked on extensive discussions with external learning and employee development partners. A strategic focus was placed on forging partnerships with well-regarded community colleges in Springfield and Chicago, recognized for their educational competence. Collaborating closely with college administrators, the team meticulously curated a curriculum tailored to DoIT's specific needs, ensuring alignment with industry standards and best practices. This strategic partnership granted trainees access to unparalleled resources and facilities, enabling a comprehensive educational experience.

With the groundwork laid and partnerships solidified, the IT Trainee Program was officially launched, heralding a new era of opportunity and growth. Hosted in two critical locations across the State—Chicago and Springfield - the program attracted overwhelming interest, with two separate recruiting events yielding over 2,000 applicants for the inaugural cohorts. Selected candidates embarked on their training journey, immersed in a comprehensive curriculum designed to impart foundational IT knowledge, practical skills development, and specialized training in key areas essential for success.

Throughout the program's duration, rigorous monitoring and evaluation mechanisms are employed to track trainee progress and measure program effectiveness. The HR Director, CTO, and division heads maintain oversight, providing timely feedback and support as needed. Key performance indicators are established to gauge trainee performance, project outcomes, and overall workforce impact, ensuring alignment with DoIT's overarching goals and objectives. Ongoing evaluations enable iterative refinement, ensuring the program remains responsive to evolving industry trends and DoIT needs. Upon successful completion of the program, trainees seamlessly transition into full-time roles within DoIT, assigned to divisions aligned with their skill sets and interests. Recognizing the dynamic nature of the IT landscape, additional targeted training opportunities, such as cybersecurity, are offered to equip trainees with specialized expertise tailored to evolving DoIT needs. The program was designed to provide IT Trainees with the knowledge, skills, and experience necessary to excel in the field of IT and contribute to the mission of DoIT.

Key Program Highlights:

- **Foundational Knowledge:** Participants gain a robust understanding of core principles and concepts within the realm of IT. Whether one's interests lie in coding, network security, or another IT field, this program lays a solid foundation.
- **Practical Skills Development:** Beyond theory, trainees develop practical skills that are directly relevant to the IT industry. They are trained in project management and industry specific skills. Intertwined within the program, they will engage in real projects and scenarios to enhance their abilities.
- **Diverse Fields of Study:** The program offers access to a broad array of IT fields. Based on operational needs, individuals will be placed in cybersecurity, coding, networking, enterprise infrastructure, or end user/help desk support.
- **Expert Mentorship:** Trainees receive guidance and mentorship from seasoned professionals at DoIT who offer relevant examples of projects and tasks supporting the State of Illinois' needs and add valuable insights and advice throughout the program.

Criteria:

Candidates for the IT Trainee program must meet one of the minimum qualifications (*refer to Figure 1*) to be considered for the program. Program applicants are processed based on the State of Illinois hiring requirements. Candidates must meet these criteria at the time of application to be considered.

Minimum Qualifications for IT Trainee					
	Coding and Database	Networking	Cybersecurity	Help Desk/EUC	Enterprise Infrastructure
Criteria I	Requires completion of a bachelor's degree, preferably with a minimum of six (6) semester hours of coursework in computer science, cybersecurity, information systems, network and telecommunications management, data analytics or a related field				
Criteria II	Requires completion of two (2) years of technical school in computer science or a related field. (The technical school must be accredited by an agency accredited by the U.S. Department of Education and clock hours must be convertible into college semester or quarter hours.) or				
Criteria III	Requires satisfactory completion of 24 semester hours in computer science, cybersecurity, information systems, network and telecommunications management, data analytics or directly related field from an accredited college or university or				
Criteria IV	Requires two (2) years of experience in computer science, cybersecurity, information systems, network and telecommunications management, data analytics, graphic arts/design or a related field or				
Criteria V	Requires an information technology certificate appropriate to the option of the specific position. For full comprehensive listing of Information Technology Trainee options and acceptable information technology certifications consult the supplementary examination announcement.				

Figure 1: Minimum Qualifications

The program instruction, courses, and educational materials are provided in partnership with an external provider. The external provider provides the instruction and coordinates any exams required for certifications that the IT Trainees will complete. Several of the courses provided afford college level credit for the trainees.

Trainees are required to take the CompTIA IT Fundamentals (ITF+) certification exam. The CompTIA ITF+ exam focuses on the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development and database use. CompTIA ITF+ covers all IT fundamentals, creating a broader understanding and a helpful on-ramp to tech career pathways. It also provides an IT education foundation for upskills in secondary education, post-secondary education and beyond.

Current Curriculum

(Refer to Figure 2) represents the current course curriculum.

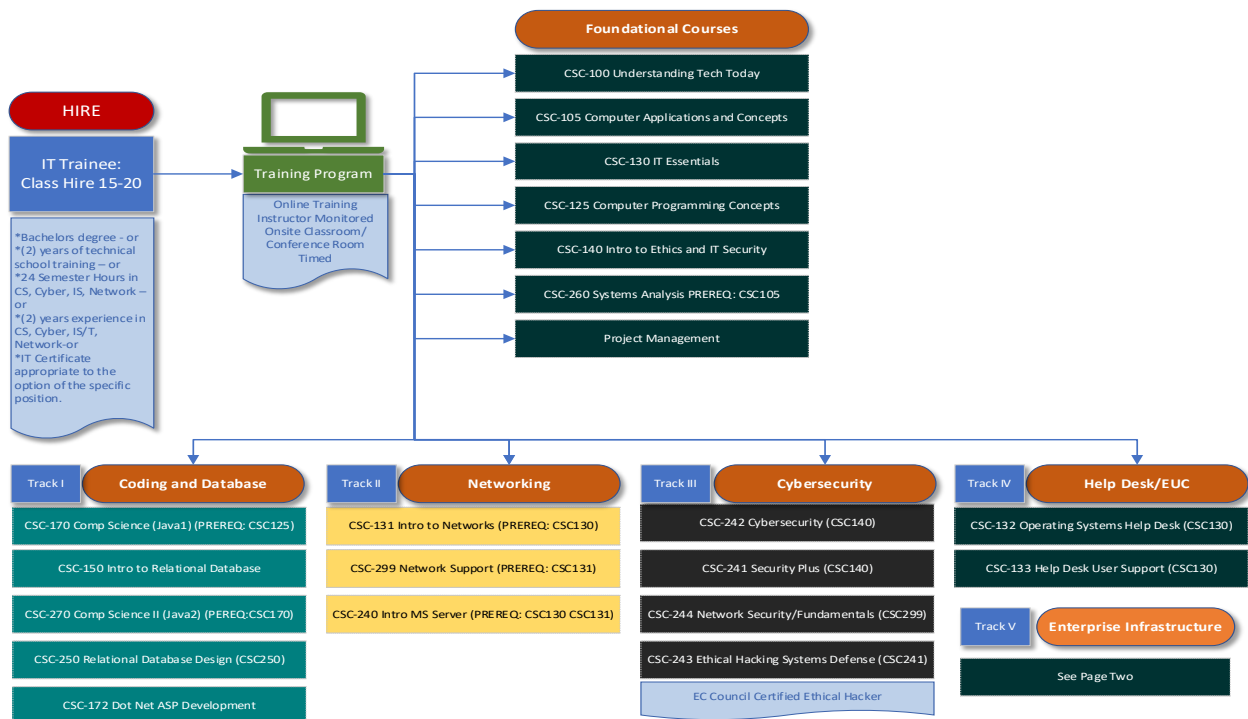


Figure 2: Current Curriculum

Foundational courses that are provided through a college or university partnership count as college level credit. Courses that are provided by outside partners do not receive college credit.

The mentorship component of the IT Trainee program is integral to trainee development and success in the IT field. The program's mentorship structure provides trainees with guidance, support, and valuable insights from seasoned professionals at DoIT. Each trainee is assigned a mentor to guide them through the trainee process. It is expected that each trainee and mentor must work together to foster a relationship based on mutual respect and trust.

Mentors provide guidance on various aspects of the IT field, including career pathways, industry trends, and skill development. They share their knowledge and experiences, offering practical advice to help trainees navigate their educational and professional journey. Mentors also help trainees gain insights into their designated area of work within DoIT, understanding of specific projects, tasks, and challenges

they may face. This relationship is a valuable resource that contributes to the trainees' overall success in the IT Trainee program and beyond.

The mentor-trainee relationship is built on mutual respect, trust, and a commitment to the trainee's professional growth. Trainees are expected to actively engage with their mentors and seek guidance and support throughout the program.

While the trainees are attending classes, they are encouraged to initiate meetings with their mentors at least every two weeks. During on-site work experiences, trainees are expected to meet with their mentors on a weekly basis. These meetings provide a structured opportunity for trainees to discuss their progress, ask questions, and gain insights into their chosen IT field.

Trainees are expected to maintain ongoing open communication with their mentors. Both trainees and mentors are encouraged to provide feedback regarding their mentorship relationship with periodic evaluations conducted to ensure that the mentorship experience is productive and beneficial for trainees.

IMPACT

The IT Trainee Program has significantly improved both the interest in working for DoIT and the ability for DoIT to independently develop a strong, more diverse talent pool addressing critical gaps in technical talent acquisition and skill development. By providing a structured pathway for individuals to enter the IT field and gain practical experience, the program has enhanced DoIT's capacity to meet its technological mandates and drive innovation.

The program has resulted in a more skilled and capable workforce at DoIT, with trainees equipped with the knowledge and experience needed to excel in their roles. With a larger pool of qualified candidates, DoIT will be able to execute projects more efficiently, meeting deadlines and delivering high-quality solutions to stakeholders. The influx of fresh talent and diverse perspectives will foster a culture of innovation within DoIT, leading to the development of new ideas and solutions to complex challenges.

The benefits of the IT Trainee Program are:

- Increased employee job satisfaction and retention
- Reduced employee turnover
- Improved employee performance and quality of work
- Enhanced brand reputation through building a cohesive culture
- Maintained competitiveness in the IT industry

Before the IT Trainee Program, challenges existed in attracting, recruiting, and retaining skilled professionals, causing project inefficiencies and limited innovation capacity. Since the program announcement last Fall, DoIT has seen a rise in applicant pools, an increase in the diversity of applicants, and more importantly, an increase in the ability to home grow higher skilled applicants. It has given an increased visibility of DoIT to the residents of Illinois as a recognized employer. Out of the 2,000 program applicants, a diverse range of candidates applied, representing various backgrounds and experiences. While it may be too early to notice a change in retention, there is a significant improvement in attracting and hiring IT professionals.

Evidence of Program Potential and Success:

DoIT has over 30 IT Trainees in the program and the cohorts have been completing coursework that is providing the skills that are needed to improve critical areas within DoIT. In concert with DoIT's cohorts already in place, DoIT has seen the number of applicants for IT positions double since the launch of the program, indicating heightened interest in and awareness of IT career opportunities.

Early IT Trainee program feedback and performance evaluations indicate that the program's curriculum and training offerings are well-aligned with DoIT's needs, providing trainees with the necessary skills to excel in their roles.

Bolande Akande, IT Trainee, reflects on their experience ...

“ I have had several highlights during my short time as an IT Trainee. I have learned a great deal about systems analysis and implementation, and I was able to do a short job shadow with the END USER and Help Desk roles. The job shadow was really cool because I got to see what a day in the life of each of these roles entails. I do not come from an IT background, so sitting with the help desk and End User Support trainers was really cool. I also have been paired up with a really good mentor that has been tasked with guiding me towards a successful career with DOIT. I hope to learn the basics of networking and Cybersecurity (which I have). These are the two fields that interest me the most and they are both interconnected. I also hope to learn the ins and outs of project management as IT is a never-ending series of projects! see myself working in the NOC/SOC in 5 years with DoIT I hope to gain the knowledge and experience to become a Security Analyst/Network Analyst!!”

- Bolande Akande, IT Trainee

Phillip Reeves, IT Trainee, sums up his experience to date ...

“ My experience with the program has been positive so far. I am grateful for the opportunity. I have been given the opportunity to work in the field that I have aspirations for. One key takeaway is that every member of the cohort is willing to help each other. I do see a whole lot of teamwork, and I love that. During this cohort, I hope to learn the basic technical skills that are required for my next position. I also want to brush up on my soft skills that are necessary for me to become a better person and employee overall. In the next five years, I wish to utilize my mentor to guide me into the career path that I am most interested in.”

- Phillip Reeves

Sandy Tsao, highlights of the program thus far ...

“ Receiving certifications in project management and information technology fundamentals, learning the basic computer coding with an educational programming language, learning basics regarding Systems Analysis and Design, IT Security and Ethics and participating in job shadowing.” During her training, Sandy hopes to “learn skills that are applicable towards the career track I will be directly placed in upon completion of the program.” In five years, she hopes to “see herself working for DoIT in a management role as a public service administrator.”

- Sandy Tsao

Amy Kukulka, IT Trainee, offers a glimpse into her experience ...

“ This program is a step in the right direction for the State of Illinois and I'm grateful to have this opportunity. I enjoyed being able to collaborate and make meaningful connections with my fellow colleagues who are also in the program. The job shadowing was extremely helpful ... and being assigned a mentor to help guide me along the beginning of my career working for the State of Illinois. I'd also love and hope to be a mentor for any of the future IT trainees that go through the program.”

- Amy Kukulka

By investing in talent development and mentorship, DoIT aims to cultivate a sustainable pipeline of skilled IT professionals who can meet DoIT's evolving needs. The program will continue to foster a culture of innovation within DoIT, ensuring it remains at the forefront of technological advancements and delivers cutting-edge service solutions to the State of Illinois residents.

The IT Trainee Program is worthy of both initial and ongoing investment due to its significant impact on workforce development and DoIT performance. By equipping DoIT with a skilled and innovative workforce built in-house, the program positions DoIT for long-term success and relevance in an increasingly digital world.