



2023

CISCO NETWORKING ACADEMY
REGISTERED
APPRENTICESHIP
PROGRAM PLAYBOOK



A Guide to Developing a Registered Apprenticeship Program Utilizing Cisco Systems' U.S. Department of Labor (DOL) National Guideline Standards



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Background

The Apprenticeship Opportunity

Every organization is powered by technology and relies on a safe, strong digital environment. The need for skilled, knowledgeable IT, technology, and cybersecurity workers has never been greater. However, employers in the technology sector – as well as employers across every sector that hire for IT, tech, and cybersecurity roles – face significant workforce challenges including:



- › **Skill Gaps** – Employers worry about the lack of specific technical skills needed for emerging technologies, hindering their ability to innovate and compete effectively.



- › **Competitive Hiring** – The demand for tech talent often exceeds the supply, resulting in fierce competition among employers to attract and retain skilled professionals.



- › **Rapid Technological Changes** – The speed at which technology evolves makes it challenging for employers to keep up with the latest trends and ensure their workforce possesses up-to-date skills.



- › **Diversity and Inclusion** – Employers recognize the need to address the underrepresentation of historically-marginalized populations including women, minorities, and people with disabilities in the technology workforce to foster innovation and diversity of thought.



- › **Retention and Employee Development** – Employers are concerned about retaining skilled workers and providing continuous learning and development opportunities to keep up with changing technology landscapes.



Registered apprenticeship is a proven solution for each of these challenges. It is the most time-tested, proven method of developing a skilled, knowledgeable, and more loyal workforce. While most people still think of apprenticeship as predominantly related to training for skilled trade occupations, today Registered Apprenticeship is being used by employers across all industries and sectors to meet talent needs in virtually every occupation. Some of the most well-known names in American industry — including Amazon, AWS, Blue Cross/Blue Shield, Boeing, Microsoft, IBM and McDonald's— are using apprenticeship to build a stronger, more skilled, and diverse tech workforce.

Registered apprenticeship provides employers with a structured, scalable tool for recruiting, training, and retaining employees who are not only skilled in their own work roles but as mentors for new hires or individuals to be upskilled for critical occupations.



Cisco: Aligned with Apprenticeship

Cisco as a whole company and its Networking Academy (“Academy”) ecosystem is well aligned with Registered Apprenticeship.

Cisco’s Mission – Apprenticeship as a workforce development solution is linked to the four pillars of “Cisco’s Purpose”.



Academies and Services

Cisco Networking Academies are ideal apprenticeship training partners and talent pipelines for local employers. Academies enroll a sustained, diverse pipeline of students who are seeking a career pathway in tech. Academy instructors are certified to teach industry-validated curriculum that is aligned with Cisco certifications. Academy courses have been approved as the Related Instruction (RI) component of any Registered Apprenticeship program built using Cisco's U.S. Department of Labor (DOL)-approved Registered Apprenticeship National Guideline Standards (NGS).

Cisco Certifications

Cisco's NGS are built on Academy programs, ensuring apprentices gain classroom education combined with hands-on experience aligned with Cisco industry-recognized certifications at the entry, associate, professional, and expert levels.

Academies are uniquely positioned to be a talent partner for companies hiring for tech occupations. Academies can provide employers with a pipeline of educated, diverse, and work-ready students prepared and supported to become apprentices and fill critical occupational needs.

Cisco's Standards for Registered Apprenticeship

On November 14, 2022, Laura Quintana, Vice President and General Manager, Cisco Networking Academy signed NGS with the DOL at a White House ceremony. The event marked the culmination of the 120-day National Cybersecurity Apprenticeship Sprint.

Cisco's DOL-approved NGS are for three occupations:

- › Cybersecurity Support Technician
- › IT Helpdesk Support Technician
- › Network Technician

CISCO ACADEMIES

Since launching the Academies in 1997, Cisco has educated more than 2 million students and provided over \$876 million dollars in curriculum, tools, resources, and support to students, schools, and instructors in communities nationwide where employers are increasingly looking for their next generation of workers.

Academies currently support over 218,000 students annually; Academy courses are taught by 3,300 active, trained instructors teaching at nearly 1,700 partner organizations including K-12 Career and Technical Education (CTE) programs, comprehensive high schools, community colleges, universities, and community-based organizations in all 50 states and globally. "92% of students who took Cisco certification aligned courses obtained a job and/or educational opportunity based on surveys since 2005 through fiscal year 2022.

With these national, DOL-approved Registered Apprenticeship standards, Academies are now equipped with the tools needed to map their current instruction to Registered Apprenticeship, providing local employers in their communities with a guaranteed pipeline of trained, credentialed candidates for employment as an apprentice. Academy Apprenticeship NGS serves as a bridge between industry and education.

With the support of Safal Partners, a DOL national Industry Intermediary for apprenticeship expansion in cybersecurity, IT and technology, Cisco is excited to make this new Apprenticeship option available to Academies, local employers, and students. We believe this new option will help employers more quickly and effectively build their future cyber, IT and technology workforce. Simultaneously, it will help students transition into full-time work in high-demand occupations with high earning potential and bright opportunities for professional growth and career advancement.

Registered Apprenticeship 101

Why Apprenticeship?

In today's rapidly changing labor market, employers are increasingly challenged to:



- › **Recruit** from a wider, more diverse pool of candidates for IT, tech, and cybersecurity roles.



- › **Train** new hires and current workers in a structured, systematic way to keep pace with technology while meeting corporate goals.



- › **Retain** workers by providing wage progression, professional development, mentoring, and clear career pathways.

In the technology sector alone, the challenges are widescale and growing:

- **65%** of technology leaders stated that they struggle to find IT talent with the necessary network engineering skills (*Harvey Nash and KPMG*).
- **83%** of IT professionals worldwide face challenges in recruiting and retaining network engineers and administrators (*Cisco Global Networking Trends Report*).
- More than **700,000** cybersecurity roles are open in the U.S. (*Cyberseek, 2023*).

- **59%** of organizations have unfilled cybersecurity positions (*ISACA, 2023*).
- **63%** of organizations reported a shortage of network professionals, which includes network engineers and administrators (*NPA 2021 Salary Survey*).
- **68%** of organizations report that lack of skilled personnel was their biggest challenge in managing and responding to network security threats (*Center for Cyber Safety and Education, 2023*).

At the same time, K-12 and post-secondary educational institutions are challenged to:

- › Improve student achievement and academic or industry certificate or credential attainment rates
- › Provide students with clear pathways to future careers that offer opportunities for advancement and family-supporting pay
- › Develop strong partnerships with local industry
- › Align programs of study and curriculum with often evolving occupational requirements and industry-validated certifications

Registered apprenticeship addresses challenges faced by both industry and education. Apprenticeship serves as bridge between the two stakeholders, offering companies a proven solution to creating a strong, skilled talent pipeline, and schools a way of more effectively partnering with industry to put students on a high-quality career pathways.

Registered Apprenticeship by the Numbers

While apprenticeship is often thought of related to skilled trade and construction occupations, the reality is today's apprenticeship is flexible, industry-driven, and rapidly expanding nationwide. Registered apprenticeship provides students and current workers with structured, high-quality career pathways that provide industry certification and a family-supporting wage with opportunities for advancement across multiple industries and sectors. According to DOL:



Program completers earn an additional \$300,000 in lifetime career earnings compared to non-apprentice peers. Average salary after apprenticeship program completion is \$77,000.



93% of apprentices are retained as full-time workers and new apprentice mentors by their employer after program completion.



97% of businesses with Registered Apprenticeship programs would recommend apprenticeship to others.

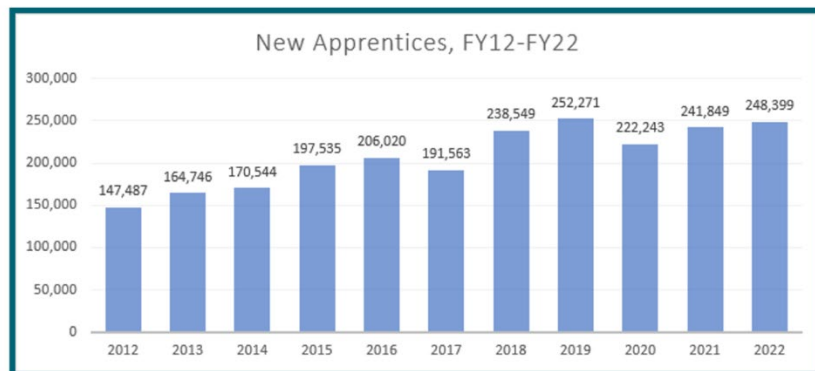
Currently in the U.S. there are more than:

- › **25,000** active programs with more than 14,700 having been created in just the last five years.
- › **835,000** active apprentices, with more than half working in non-traditional (skilled trade) occupations.

Apprenticeship continues to demonstrate strong growth

68.4%

Increase in new registered apprentices over the past decade



Key Facts

As of the end of FY 2021:

- › **425,000+ participants** completed an apprenticeship in the last five years
- › **14,700+ new apprenticeship programs** created in the last five years
- › **2.2 million+** new apprentices since FY12
- › **19% more active apprentices** than the previous 10-year average (593,000 vs 484,000)

Source: DOL, "Registered Apprenticeship National Results Fiscal Year 2021" accessed at <https://www.dol.gov/agencies/eta/apprenticeship/about/statistics/2021>.

The 5 Core Components of Registered Apprenticeship

Registered apprenticeship is a proven, industry-driven workforce development strategy. Programs are built using occupational frameworks that:

- have been built by industry,
- are aligned with industry standards, certifications, and credentials, and
- are customizable to meet an organization's unique talent needs.

Registered apprenticeship allows employers to address current and projected employment needs through structured, mentor-led, workplace learning combined with classroom instruction. Registered apprenticeship programs are **customized and driven by industry** and typically **supported by a network of partners** across education, the workforce system, local government, and community-based organizations.

All registered apprenticeship programs include **five core components**:



**Employer
Involvement**



**Structured
On-the-job
Learning
(OJL)**



**Related
Instruction
(RI)**



**Reward for
skills gained**



**National
Occupational
Credential**

Let's review each component:



- › **Employer Involvement** – Apprenticeships are paid positions. Apprentices are hired by an employer and their work is structured to include both on-the-job learning (OJL) and RI. Apprentices can be full- or part-time employees, new hires or existing employees, and depending on the occupation and state employment law can be youth aged 16 or older.



- › **Structured On-the-Job Learning (OJL)** – The core learning method of apprenticeship is hands-on work. Apprentices learn critical skills and build occupational competency through a series of tasks foundational to their occupation and customized to an employers' needs. Mentors who are experienced professionals in the occupation the apprentice is learning are selected by the employer to provide ongoing support and coaching.



- › **Related Instruction (RI)** – Apprentices' hands-on OJL is complemented by RI, ensuring that apprentices learn not only the techniques required to master their occupation but core knowledge as well. Federal regulations recommend that all apprentices complete a minimum of 144 hours of RI (seat hours, not academic credit hours) annually.

The Cisco Apprenticeship NGS includes Academy courses as the RI for each apprenticeable occupation. The Cisco curriculum sequence and its implementation is already closely aligned with industry standards and the technical knowledge and skills required for success on the job.



- › **Rewards for Skills Gains** – Employers set the wage schedule for apprentices. Depending on the occupation, employers may start newly-hired apprentices at anywhere from 50 – 80% of the typical wage for an early-stage professional in their occupation, recognizing that the employers' training is of significant value in addition to wages. Apprentices' entry wage will gradually increase over the program period as they meet identified performance benchmarks.



- > **National Occupational Credential(s)** – All Registered Apprenticeship program completers earn at least one portable, nationally-recognized credential certifying that they are fully qualified for the position they have trained for. Apprentices who complete a Cisco Academy Registered Apprenticeship program will earn both a DOL credential and at least one additional Cisco certification or credential upon successful completion of their program and testing.

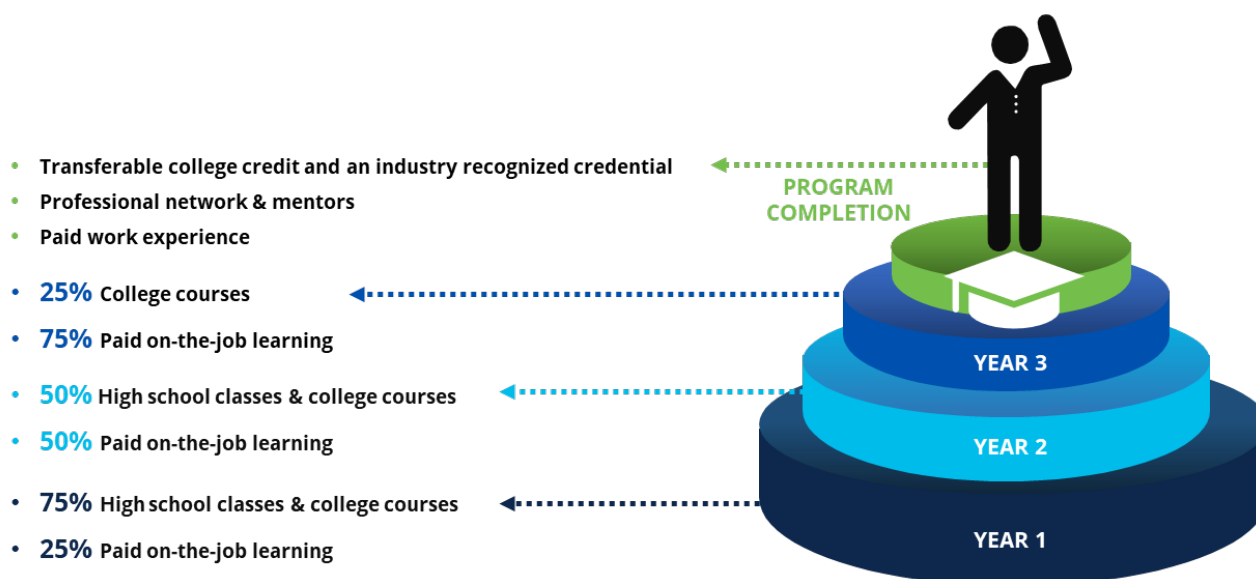
Apprentice Age & Eligibility

Registered apprenticeship **program sponsors determine the minimum eligibility requirements** that apprentice candidates must meet in order to be considered for being hired into their programs. Cisco academies that choose to become program sponsors can work with local employers to determine the most appropriate minimum eligibility requirements for a program. Employers that choose to use Cisco NGS as a way of fast-tracking their own sponsored program will establish their minimum requirements. Eligibility requirements should meet industry needs while being broad enough to ensure employers have a strong pipeline of candidates from which to hire and train.

Apprentices can be adults or youth; a “youth apprentice” must be at least 16 years old and is typically at least a junior, and more frequently a senior in high school. In nearly every state, students enrolled in a Cisco Academy apprenticeship program during high school can be:

- registered as an apprentice,
- complete all or a majority of their RI through their Academy courses, and
- begin their paid OJL by working for an employer during the school year - on a schedule developed with their school - and over the summer break.

Following high school graduation youth apprentices can then continue their employer based paid OJL as a full-time employed apprentice and complete any remaining Academy courses through a community college partner. If needed, Safal Partners and Cisco Academic Support Centers (ASCs) can assist high schools and youth Career and Technical Education (CTE) Academy programs in developing articulation agreements with community colleges or four-year colleges and universities for high school students’ post-graduation RI completion.



Apprenticeship: Flexibility in Design and Delivery

Today's Registered Apprenticeship programs are designed to meet both the needs of an employer and apprentice. There is flexibility in program design and delivery.

Program Design – Programs can be competency-based, time-based or hybrid:



- › **Time-based programs** require apprentices to complete a set number of OJL learning hours and RI



- › **Competency-based programs** enable apprentices to complete paid OJL and RI at their own pace, with supervisors signing off on apprentices' demonstrated mastery of tasks



- › **Hybrid programs** are designed to allow apprentices to move through instruction at their pace while requiring a minimum/maximum number of hours to be spent on OJL

All Cisco Apprenticeship NGS are Competency-Based. While programs typically require apprentices to complete at least 2,000 hours of OJL, employers can also accelerate apprentices' program completions by applying credit for previous experience (CPE) and/or credit for prior learning (CPL).

RI Delivery – Cisco Academies will be the RI provider for Registered Apprenticeship programs that utilize Cisco's NGS.

Mentored OJL/RI Delivery – Employers can also determine the timing for apprentices to complete their RI and their OJL. There are multiple options:



- › **Traditional Model** – Apprentices complete their Cisco Networking Academy RI and paid OJL concurrently throughout the program



- › **Front-loaded Model** – The Cisco Networking Academy provides all training upfront prior to an apprentice beginning paid OJL

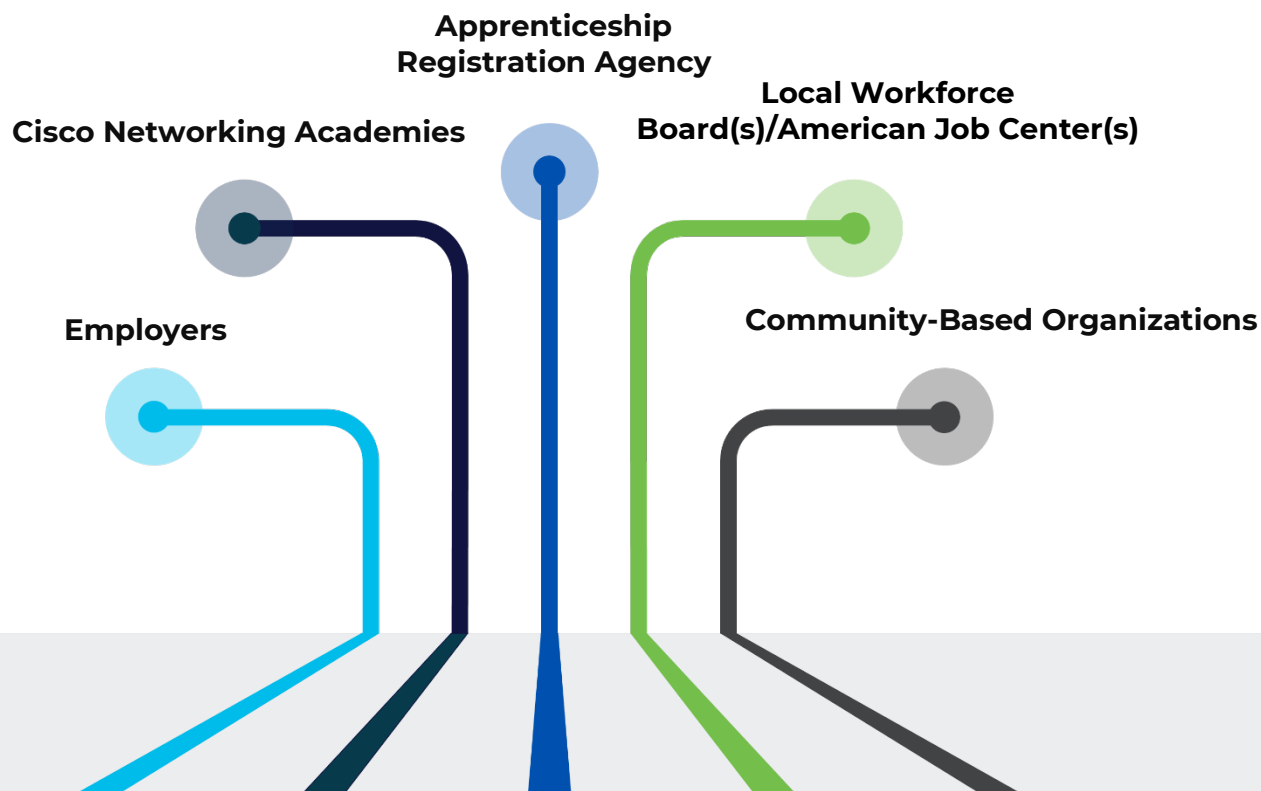


- › **Segmented Model** – Apprentices alternate between RI and paid OJL

A majority of employers are likely to want Cisco Networking Academy students – especially youth – to complete certain core instruction before beginning paid OJL.

Partners in the Apprenticeship Process

Apprenticeship is built on a network of strong partners. Here's a snapshot of the role that each partner can and/or may decide to play in a Cisco Networking Academy apprenticeship program:



Employers

- › Interview and hire current Academy students as apprentice and/or select current employees to be apprentices and enroll in Academy courses for their RI
- › Provide apprentices with paid OJL under supervision of experienced mentor
- › Pay apprentices progressively higher wages as skills increase
- › Provide feedback to the Academy on the apprenticeship program and curriculum
- › Track hours and competencies

Academies

- › Provide RI to apprentices
- › Prepare students for apprenticeship, interview and OJL expectations; for high school youth programs, Academy instructors will likely recommend student candidates for employers
- › Provide a pipeline of apprentice candidates to local employers
- › Market Registered Apprenticeship program partnership to local employers
- › Assist in program development
- › Coordinate apprentices' OJL schedule with employers

- › Maintain regular communication with participating employer(s) and apprentice(s) to determine program progress
- › Provide or provide access to supportive services for apprentices
- › Can serve as program sponsor and potentially generate revenue from participating employers (by charging a modest fee for administrative services required as sponsor)
- › Maintain regular communication with participating employer(s) and apprentice(s)

Apprenticeship Registration Agency

Each state has either a [DOL Office of Apprenticeship or State Apprenticeship Agency \(SAA\)](#) that oversees apprenticeship, and registers programs and apprentices. Safal Partners has extensive experience working with state and local OA and SAA to determine the best sponsorship option for an Academy. The OA or SAA staff will:

- › Assist in utilizing the Cisco NGS to develop and approve program
- › Provide expertise to the Academy and participating employers on apprenticeship
- › Track apprentices' program completion, wage progression
- › Certify apprentices' program completion and issue credential

Local Workforce Boards/American Job Centers (AJCs)

The public workforce system serves local job seekers and employers and can provide support to help offset certain program costs for eligible in-school youth and adults. Local workforce boards and staff at their local AJCs can utilize various programs and sources of funding to:

- › Help a Cisco Networking Academy convene, educate local employers about apprenticeship and the Cisco NGS and Academy students as an apprentice pipeline
- › Certify apprentices as eligible under the Workforce Innovation and Opportunity Act (WIOA)
- › Potentially provide funding toward RI costs for WIOA-eligible apprentices if applicable
- › Provide supportive services for WIOA-eligible apprentices
- › Potentially provide partial wage reimbursement to employers for WIOA-eligible apprentices' OJL
- › Provide non-WIOA funding, support, and services to Apprenticeship program sponsors, employers, and apprentices

Community-Based Organizations

Community-based organizations can be a valuable source of ongoing apprenticeship program awareness and potential support by:

- › Raising awareness of a Cisco apprenticeship program to students, parents, employer partners, and funding partners
- › Provide pre-apprenticeship instruction and/or services
- › Provide supportive services to apprentices to increase likelihood of persistence

Pre-Apprenticeship and Registered Apprenticeship: What, When, and Why

What's the Difference?

Pre-apprenticeship and RA are two distinctly different, but linked program types. Pre-apprenticeship is defined by DOL as:

*“a program or set of strategies **designed to prepare individuals to enter and succeed in a Registered Apprenticeship program** and has a **documented partnership** with at least one, if not more, Registered Apprenticeship program(s).” ([DOL Training & Employment Notice 13-12](#))*

Pre-apprenticeship programs can be developed to support a Registered Apprenticeship program utilizing the Cisco NGS for in-school and out-of-school youth and adults. They can be run by Cisco Networking Academies, community colleges, universities, adult education programs, training organizations, employers, local workforce boards, etc.

Why Are they Built?

Pre-apprenticeship programs are not designed to be self-contained but rather a method of providing local Registered Apprenticeship programs with a sustained pipeline of potential candidates. The programs are built to provide candidates with a combination of sponsor-reviewed classroom/online instruction and relevant hands-on experience, so that they are well-prepared to apply for and succeed in a Registered Apprenticeship program.

When Should They Be Developed?

High-quality pre-apprenticeship programs should be built by organizations only:

- › after developing a relationship with one or more established Registered Apprenticeship program sponsors and confirming a need for a larger talent pipeline for those programs OR
- › as a secondary component to developing a new or expanded Registered Apprenticeship program with employer partners.

Cisco's Focus

To build a stronger, more skilled and diverse tech workforce, Cisco is first focused on accelerating development of high-quality Registered Apprenticeship programs through implementation of its NGS by local Networking Academies and employer partners. We believe that providing Registered Apprenticeship opportunities for Cisco Networking Academy students is foundational to scaling apprenticeship nationwide, and can provide high school students, college students, and adults with an ‘earn and learn’ model of directly applying what they are learning in the classroom to paid training as a registered apprentice.

Over time as Registered Apprenticeship programs are developed and Cisco Networking Academies and employers are looking for ways to consistently build an even larger potential candidate pipeline, stakeholders should consider developing a pre-apprenticeship program, working with local workforce boards, community

partners, and local apprenticeship system staff to help students or potential program candidates prepare for and meet minimum eligibility requirements for an apprenticeship program. Part of the pre-apprenticeship program development process involves the employers' decision about how much RI and/or relevant OJL/non-classroom experience completed by pre-apprentices will be applied toward Registered Apprenticeship program requirements.

Academies' Plan and Playbook for Apprenticeship

The ultimate goal of implementing Cisco's NGS is three-fold:

- › To enrich the employment landscape providing a clear "earn as you learn" pathway for students to gain valuable workplace experience.
- › To help employers become not only consumers but producers of their own talent by collaborating with Academies in fast-tracking the "classroom to career" pathway; and
- › To equip Academies with an essential workforce development strategy and remain highly relevant to local employer partners.

To help Academies better understand apprenticeship, engage their local employers, and build a network of internal stakeholders and external partnerships, Cisco is beginning an apprenticeship pilot program. Through this program, Cisco Networking Academy and its DOL national Industry Intermediary partner, Safal Partners, will provide baseline information about Registered Apprenticeship to all Academies and ongoing technical assistance (TA) and support to assist Academies in specific markets in developing Cisco NGS-based Registered Apprenticeship programs. This strategy is designed to:



Objective #1: Grow overall Academy awareness of Registered Apprenticeship



Objective #2: Develop NGS-based programs to determine promising practices that can be applied as Registered Apprenticeship programs are scaled nationwide

This Apprenticeship Playbook is designed as a guide for:



- › **Academy** administrators and instructors interested in engaging in Registered Apprenticeship – by providing participating employers with:
 - talent through its student pipeline,
 - RI as an apprenticeship program training partner, and even
 - serving potentially as an RA program sponsor.

Academies can play one or multiple roles.



- › **Academic Support Centers (ASCs)** and **Instructor Training Centers (ITCs)** to learn how to access resources for supporting Academy host organizations and instructors interested in engaging in Registered Apprenticeship.



- › **Academy Business Development Managers (BDMs)** to learn how their customers can collaborate with their local Academy to develop a Registered Apprenticeship program and establish a hiring pipeline for Academy students and graduates.

Program Development Steps

This guide lays out the key steps to developing a high-quality, sustainable Registered Apprenticeship program built with the Cisco NGS.

The following sections include information, suggested tips, and resources for the apprenticeship program development process. Following are steps for an Academy to consider and take in building a Registered Apprenticeship program.

- › **Pre-Program Work**
- › **Program Development and Registration**
- › **Program Launch**
- › **Program Evaluation and Continuous Improvement**

Pre-Program Work

Based on the organization's decades of experience building hundreds of high-quality, sustainable apprenticeship programs, Safal Partners recommends Academies walk through the following steps before beginning the process of designing and developing a Registered Apprenticeship program:

Step 1: Assess Local Need

To create a relevant apprenticeship program, you'll need to know critical **local labor market information (LMI)**. Numerous partners can help you determine the local labor market need including:

- your state or local economic development agency,
- local workforce development board(s),
- local chamber(s) of commerce, and
- state or local industry associations.

The best starting point is to contact your local workforce development board ([locate yours here](#)), state or local economic development agency ([locate yours here](#)), or state or local chamber of commerce ([locate yours here](#)) and let them know of your interest in accessing LMI with a focus on the occupations you're considering for your Registered Apprenticeship program.

LMI can help you determine:

Occupational demand – what occupations are in high demand by local employers? Which occupations take the longest for your local employers to fill after posting an opening? For what roles are employers struggling with high turnover?

- › **Employer need** – which employers in your area are currently hiring, or have historically hired and are likely again in the future, for those roles? Do they have a training strategy to bring on people who are not fully qualified for the roles?
- › **Program interest** – before investing valuable resources, staff time, and partnership capital, you'll want to validate that the employer understands and is interested in collaborating on a Registered Apprenticeship program.

Your Academy institution's Advisory Council or Committee can also help you gain insight into the local labor market. You can:

- › Survey council industry members about occupational demand in their sector.
- › Encourage employer members to share resources and information on other industries and sectors they know of with high occupational demand.
- › Consider using time at a scheduled council or committee meetings to discuss the topic of the local labor markets.

Step 2: Build Your Internal Team

Once you have validated local industry talent needs and confirmed interest by at least one or more local employers in Registered Apprenticeship, it's important to build your internal program team.

To secure organizational agreement to pursue program development, faculty and staff who will be in decision-making and future implementation roles should be part of the discussion and planning from the outset including:

- › Program/host Institution (i.e., CTE) administrator
- › Networking Academy instructor(s)
- › Guidance/career counselors

REVENUE MODELS

Academies which opt to serve as apprenticeship program sponsors may want to consider a revenue generation model, charging a modest amount in order to help offset some of the costs incurred for staff time to sponsor and administer a program. While sponsors are not required to charge a fee for service, various models include:

- › **Pay per apprentice model:** employers pay the Academy a fixed, per-apprentice fee for services
- › **Annual partner model:** employers pay a one-time or annual fee for participating in the Academy's sponsored program with no minimum or maximum requirement for number of apprentices to be served.
- › **Hybrid model:** apprentices pay a reasonable per year fee to participate in the Academy sponsored program for access to a talent pipeline and overall program administration and then a per-apprentice fee to support training and individual.

Communicating the benefits of participating in Registered Apprenticeship is critical for making the case with internal stakeholders.

Benefits for Academies

Academies are already industry-recognized leaders in preparing students with relevant training and certifications. By engaging in apprenticeship, Academies can:

- › Gain increased visibility among local employers
- › Measurably improve CTE program outcomes
- › Prepare students with training and knowledge for in-demand careers
- › Provide a tangible, value-added for local employers for which they may be able/decide to generate revenue through a “fee for service” model
- › Increase student and parent interest and engagement in your school or center’s programs
- › Provide valuable workplace-based experience to help students be “job ready” upon graduation
- › Potentially expand broader usage of Cisco content

Virtually all businesses need help both finding and training workers to compete in today’s economic environment. Academies are uniquely positioned to fill an important role by creating a stable stream of students who are work-ready, , as well as providing an industry-validated training solution for employers looking to train their current workers.

Once engaged, the Academy team can clarify apprenticeship program goals by answering key questions such as:

- › Are there employers with whom you would like to establish a strong, long-term partnership for future student employment pathways?
- › For K-12 Academies: are there high school students for whom you would like to establish an alternative to a traditional four-year college pathway following high school graduation? Would you like to improve CTE program outcomes?
- › For community colleges and university Academy programs: are there employers for whom you would like to be a training partner for current workers needing upskilling?

For Institutions Already Sponsoring Registered Apprenticeship Programs

In some cases, Academy institutions (high schools, CTE centers, community colleges, etc.) are already approved as a Registered Apprenticeship program sponsor. A large number of community colleges across the U.S., and an increasing number of CTE programs are already approved RA program sponsors. For those institutions, organizational buy-in has already been secured and the process is streamlined. All that is required is for OA or SAA staff to simply add the Cisco NGS occupation(s) to the organization’s current Registered Apprenticeship program standards. Safal Partners can assist, and potentially have an existing apprenticeship program expanded with a new Cisco occupation in a matter of days.



Generating Revenue through Apprenticeship

If an Academy chooses to serve as the Registered Apprenticeship program sponsor, it is agreeing to take on specific responsibilities for operating the apprenticeship program. By providing value-added services to participating employers through sponsorship, an Academy may opt to charge a fee for services. The fee reflects benefits for employers which may include:

- › Completing the process of applying for [program registration with the state's OA or SAA](#)
- › Handling program paperwork and administration
- › Recruiting students and providing recommendations on potential program candidates to employers
- › Delivering RI training
- › Potentially modifying curriculum to meet employer instructional needs
- › Educating students about apprenticeship
- › Providing pre-apprenticeship readiness instruction, assessments
- › For high school/CTE program sponsors: providing alignment and potential articulation to a local community college for continued, seamless post-graduation RI
- › Potentially offering access to apprentice supports (i.e., tutoring, career counseling, pre-certification testing preparation)

Once engaged, the Academy team can clarify apprenticeship program goals by answering key questions such as:

Are there employers with whom you would like to establish a strong, long-term partnership for future student employment pathways?

For K-12 Academies, are there high school students for whom you would like to establish an alternative to a traditional four-year college pathway following high school graduation? Would you like to improve CTE program outcomes?

For community colleges and university Academy programs, are there employers for whom you would like to be a training partner for current workers needing upskilling?

Step 3: Engage Employers

At a minimum, a Cisco Networking Academy Registered Apprenticeship program will involve an Academy and one or more employers. The Academy provides the RI and the employer(s) agree to hire Academy students as apprentices and provide paid OJL under mentored supervision. The employer(s) can develop an OJL schedule that works for the Academy, students, and corporate business needs.

You can identify potential participating employers by approaching:

- › Employers serving on your Academy Advisory Committee
- › Your local workforce development board
- › Your local Chamber of Commerce
- › Key local or regional trade associations



Securing participating employers begins with communicating the primary benefits of apprenticeship

Benefits for Employers

Registered apprenticeship has been proven to:

-  **Increase employee productivity and workplace engagement**
-  **Reduce recruitment and hiring costs**
-  **Improve retention; 94 percent of apprentices are retained as full-time salaried employees after program completion**
-  **Provide a structured, scalable, cutting-edge training program aligned with industry standards and customizable to specific skill needs and unique workplace requirements**
-  **Expand workforce diversity**
-  **Foster a culture of “life-long learning”**

Safal Partners can assist your Academy team in helping employers determine their goals for participating in an apprenticeship program by convening corporate leadership, hiring managers, and HR staff to answer questions such as:

- › For which occupations do you need to create a more stable, long-term talent pipeline?
- › Which populations would you like to do a better job of recruiting and retaining?
- › Are there partners with whom you would like to be more strategically engaged to find talent?

Step 4: Convene Additional Partners

Once you have validated local need, secured internal stakeholder agreement and employer interest, you should bring other potential partners together do pre-program development work including representatives from:

- › **Post-Secondary Educational Institutions** – If your Academy is a high school-based program, community college(s) with which you can create articulation agreements and dual or concurrently enroll Academy students for college credit for their RI
- › **State Apprenticeship System** – Your state's OA or SAA staff should be involved in program development at the outset to help all program members understand the requirements, opportunities, and resources to support the program. Safal Partners can help make those connections and support/facilitate the program development process with the OA and SAA staff.
- › **Local Workforce Development Board** – Your local board can educate your Academy team and participating employers on WIOA funding and WIOA-funded supportive services accessible to support both the program and individual apprentices.



Once you have convened partners, each organization should identify a point person for leading their work in building and launching a Registered Apprenticeship program.

Step 5: Identify Program Cost Components and Funding Resources

The most significant cost for every Registered Apprenticeship program is the apprentices' wages which are paid by participating employers. Employers have already identified a need for the roles your Academy will be helping them fill and employers typically set the starting wage schedule for apprentices anywhere between 50-80% of an entry level applicant for the role, and then provide opportunities for regular wage increase(s) over the course of the program.

Additional program costs may include:

- › Cost of RI courses, curriculum, instructors, or material
- › Staff time to oversee and administer the program
- › Program marketing and outreach – website development/maintenance, outreach events, etc.

Funding to help offset a portion of those costs can come through:

- › **Federal, State or Local Grants** – DOL regularly creates apprenticeship-related [contract and grant programs for which sponsors can apply](#), and provides funding to states which is often used to create state and local grant programs. Increasingly states are also allocating funding and financial support for state-registered apprenticeship programs as well, often through competitive grant programs or potentially non-competitive application processes.
- › **State Tax Credits** – several states offer tax credits that employers can utilize to offset program costs (see [State Tax Credits and Tuition Support](#) on [Apprenticeship.gov](#))
- › **Workforce System Funding** – local workforce boards administer WIOA funds, which may be used by boards to support both OJL and RI components of Registered Apprenticeship programs. Your local workforce board can outline possible funding and funded services they can offer to support your program which may include:
 - **OJT contracts** to provide partial wage reimbursement – paid directly to the apprentices' employer
 - **Individual Training Accounts (ITAs)** to pay for a portion or all of an apprentices RI costs – paid directly to the training provider
 - **Supportive Services** to provide fully or partially paid support encouraging program persistence for WIOA-eligible apprentices such as vouchers for childcare and transportation, uniforms, equipment, etc.
- › **Private Foundation or Charitable Funding** – an increasing number of private foundations, charities, and community-based organizations dedicated to workforce development and creating equitable student career pathways are providing funding to apprenticeship programs. Both local workforce boards and online resources such as the Grants Foundation directory can provide information.

Program Development and Registration

Congratulations! You've done the core work of validating labor market need for and employer interest in apprenticeship, pulled together your internal team, secured internal and external stakeholder agreement, and convened partners. You're now ready to actually design and develop your apprenticeship program.

Cisco developed DOL-approved NGS to accelerate the program development and registration process. Instead of starting from scratch, the Cisco NGS provides employers and Academies with approved, industry-validated, and easily customizable apprenticeship frameworks for three occupations:



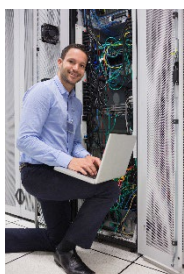
Cybersecurity Support Technician

- **Standard job description:** Plans, implements, upgrades, or monitors security measures to protect computer networks and information. Assesses system vulnerabilities for security risks and proposes and implements risk mitigation strategies. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.
- **Cisco Academy-embedded industry certification:** Cisco Cyber Ops Associate



IT Help Desk Technician

- **Standard job description:** Provides technical assistance to computer users, answering questions or resolving computer problems for clients in person, via telephone, or remotely. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
- **Cisco Academy-embedded industry certification:** CompTIA A+



Network Support Technician

- **Standard job description:** Installs, configures, and maintains an organization's local area network (LAN), wide area network (WAN), data communications network, operating systems, and physical and virtual servers. Performs system monitoring and verifies the integrity and availability of hardware, network, and server resources and systems. Reviews system and application logs and verifies completion of scheduled jobs, including system backups. Analyzes network and server resource consumption and control user access. Installs and upgrades software and maintains software licenses. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software.
- **Cisco Academy-embedded industry certification:** Cisco Certified Network Associate

The Cisco NGS are built around the skills and knowledge needed by industry, learned through RI courses taught at Cisco Academies, and directly aligned with Cisco certifications. Cisco NGS are competency-based, meaning that the apprentices' OJL mentor(s)/supervisor(s) will use the framework to sign off and validate the apprentices' abilities. Most Registered Apprenticeship programs built on Cisco's NGS will take apprentices at least 2,000 hours to complete their OJL which may be started as early as high school.

Step 1: Determine Current Apprenticeship Sponsorship Status

Is your Academy host institution (i.e. high school, CTE Center, community college) – or an employer you are considering working with - already an RA sponsor? If so, it will be relatively easy to simply add a Cisco NGS occupation to the already-approved program and begin recruiting apprentices. If not, the Safal team will walk through the options and help you determine next steps for designating a sponsor. Your local OA or SAA Apprenticeship Training Representative (ATR) can quickly and easily determine if an organization is already approved as an Registered Apprenticeship sponsor.

Step 2: Determine Best Possible Apprenticeship Roles

The following are key apprenticeship program roles. Each of your convened apprenticeship team members will need to determine the best role(s) for their organization to play.



- › **Sponsor** – all Registered Apprenticeship programs require a sponsor, which agrees to operate the program and in whose name the program is registered. Sponsors are required at a minimum to:
- Work with DOL OA or SAA staff to develop, maintain, monitor, and update their program
 - Ensure (working with participating employers) a safe and healthful workplace
 - Maintain program and apprentice records
 - Register apprentices
 - Report apprentice progress in state's database
 - Handle program complaints



- › **RI Provider** – provides instruction to apprentices in the designated occupation's core knowledge, skills, and abilities. Academies meet the federal definition of an RI provider and will serve as the RI provider for programs built using Cisco's NGS



- › **Employer** – hires and provides paid OJL for apprentices under supervision of a designated mentor who is a skilled professional in that occupation.



- › **Partner** – can apply to a wide variety of organizations which are committed to assisting Registered Apprenticeship programs. Organizations can play one or more roles such as promoting the program to potential employers, recruiting and pre-screening

apprentice candidates, providing funding, offering supportive services, etc.

Step 3: Designating a Program Sponsor

Sponsors using Cisco's NGS benefit from having an already nationally approved, industry-validated and customizable framework for program registration. There are three primary sponsorship options for a Registered Apprenticeship program using Cisco's NGS:

-  › **Academy sponsored program** – The organization hosting the Academy (high school, school system, CTE center, community college, university, etc.) acts as the program sponsor and the Academy provides the RI. The employer partners hire the apprentices and provide the OJL and mentor.
-  › **Employer sponsored program** – The employer acts as the program sponsor, hires the apprentices and provides the paid OJL under mentored supervision. The Academy acts as the RI provider and provides a pipeline of apprentice applicants for the employer.
-  › **Intermediary sponsored program** – A local or regional industry association, business organization, local workforce development board, labor union or association, or other entity serves as the program sponsor. The Academy acts as the RI provider, and employer partners hire apprentices and provide the paid OJL under mentored supervision.

There are two additional options for sponsorship:

1. Safal Partners, Cisco's partner for registered apprenticeship expansion and a DOL national industry intermediary, can serve as the program sponsor through its already DOL-approved, national apprenticeship program. With this option an employer joins Safal's program and works with their local Academy which will provide a pipeline of apprentice candidates for paid OJL as well as providing the RI.
2. Camden Dream Center, a Cisco Networking Academy based in New Jersey, can also serve as the program sponsor. Safal developed the Dream Center's program and works closely with the Center to support program expansion.

As Cisco's national industry intermediary partner, Safal can provide Academies, employers, and key Academy stakeholder partners with ongoing, no-cost technical assistance, program support, and more.



Step 4: Customize the Cisco NGS and Register the Program

The Cisco/Safal team can work with the designated program sponsor to walk through the NGS outline and customize certain elements such as:

- › apprentices' OJL tasks
- › wage schedule
- › program's minimum qualifications for entry

Safal will introduce the designated sponsor to the [DOL OA or SAA](#) in your state to help the sponsor complete a series of documents called program standards and appendices.

Let's review what each of the Standards and Appendices documents cover.

Standards

Program standards outline the registration agency's rules and how a program will run. In addition, program standards will outline:

Program Type – standards will indicate whether the RA program will be:

- › **Independent vs. Group Program** – If a single employer decides to use the Cisco NGS to sponsor its own program and utilize the local Academy as its RI provider it will be an “independent” program. If an Academy sponsors the program and makes it available to multiple employers, it is considered a “group” program.
- › **Joint vs. Non-Joint Program** – Most apprenticeship programs built with Cisco NGS will be “Non-Joint” programs, meaning they will not be sponsored by or involve a labor union. However, if the Academy's host institution (CTE Center, community college, etc.) already works with a local labor union they can discuss how that organization may want to consider using the Cisco NGS as part of their own “Joint” program.

Minimum Qualifications- Standards will reflect the minimum qualifications an applicant must meet to be eligible to participate. For high school Academy programs – or employer sponsored programs that aim to hire high school youth apprentices - potential minimum qualifications and selection agreement may include topics or items such as:

- Written consent from guardian (for students under the age of 18)
- Formal recommendation from school (teacher, counselor, etc.)
- Minimum GPA and maintaining a specific GPA for their Academy courses

SAFAL SPONSORSHIP

If your team decides to have local employers join Safal's national program using Cisco's NGS, and have your Academy serve as their RI provider and talent pipeline source, then no local registration work on your part is necessary. Safal will walk the employer through the program, have them sign the Appendix D “Employer Acceptance Agreement” document to participate in the program and support your work with the employer to register apprentices.

- Satisfactory attendance record (as specific percentage of class days) during period of apprenticeship
- Be and remain on target for high school graduation
- Possess a valid driver's license or have reliable method of transportation to worksite for OJL



NOTE: Once an apprentice is registered and hired for paid OJL they will be required to adhere to the employers' standard terms of employment so those do not necessarily need to be spelled out in the minimum qualifications' component of the apprenticeship program standards.

A pre-hire apprenticeship orientation should be held including representatives from both the Academy and employer to walk students and parents through the requirements for applying to the program and then working as an apprentice.

Appendices

Program standards also include the following Appendices:

- › **Appendix A** – outlining each occupation(s) from the Cisco NGS the program sponsor offers. A sponsor will have one Appendix A for each Cisco NGS occupation. The Appendix A outlines key OJL tasks and Academy RI courses.
- › **Appendix B** – this form is completed by the apprentice (Academy student) and program sponsor to formally register the apprentice. It includes apprentice-level demographic data, program information (i.e., occupation, wage schedule, program start date and projected completion date, etc.).
- › **Appendix C** – all programs with more than 5 apprentices will need to complete an [Affirmative Action Plan \(AAP\)](#) to ensure their programs are fair and equitable. Organizations that are government contractors or subcontractors and have more than 50 employees are required to have AAPs which can be utilized as part of their apprenticeship program. Safal can provide extensive resources and assistance in AAP development.
- › **Appendix D** – individual employers sign this one-page Employer Acceptance Agreement to join an Academy-sponsored program. It affirms that the employer understands and accepts the rules governing the Academy (or other-sponsored program – i.e., Safal or Camden Dream Center's programs), that they intend to participate in the program and hire/provide paid OJL for however many Cisco Academy students they decide to hire as apprentices. Employers have final say on which apprentices they choose to hire and register and do not need to meet a minimum requirement.

Each of these Appendices are available in [Office of Apprenticeship Bulletin 2023-25](#), which announced the approval of Cisco's NGS. For program development, the most critical piece of this package is the Appendix A. It effectively outlines the real “nuts and bolts” of every Registered Apprenticeship program. Let's take a closer look at the documents.

Appendix A Overview

Each occupation will have its own Appendix A. The document outlines the following core components:

- › **Selected occupation and format**
- › **Apprentice to Journeyworker/mentor ratio**
- › **Wage progression**
- › **On-the-job learning (OJL) and Related Instruction (RI)**
- › **Selection Procedures and Probationary Period**

Let's review each component:

Occupation and Format

Appendix A indicates the occupation being offered through the Cisco NGS and includes:

- › an O*Net Code (from DOL's O*Net database)
- › a RAPIDS (Registered Apprenticeship Partners Information Database System) code
- › a notation designating program format: TB (time-based), competency-based (CB), or hybrid (HY) (note: all Cisco NGS are CB)

Cisco NGS can be used to register one of three occupations:

- › Cybersecurity Support Analyst (*O*Net-SOC Code: 15-1212.00; RAPIDS Code 2050CB*)
- › IT Help Desk Technician (*O*Net-SOC Code: 15-1232.00; RAPIDS Code 1059CB*)
- › Network Support Technician (*O*Net-SOC Code: 15-1244.00; RAPIDS Code 1132CB*)

All Cisco NGS programs are competency-based (CB). CB programs do not have individual task hours but provide a rubric for employers to assess apprentices' competency in individual tasks. While the program base is a minimum of 2000 OJL hours, an apprentice can complete earlier based on (a) demonstrated mastery of all competencies and (b) successful completion of all RI. Most Academy programs should estimate that it will take an apprentice a minimum of 12-18 months; students are likely to complete all or a majority of their RI while doing some scheduled paid OJL, and then focusing on completing the OJL.



Journeyworker/Mentor : Apprentice Ratio

Most occupations include a standard ratio of Journeyworker/Mentors to apprentices to ensure that all apprentices can be properly trained and be given enough training opportunity to become fully competent for ongoing employment in that occupation. Mentors can work with more than one apprentice.

Wage Progression

A core requirement of all Registered Apprenticeship programs is that apprentices have the opportunity to earn a progressively increasing wage over their period of performance. It ensures the apprentice is (1) rewarded for successfully building skill and competence outlined in the program and (b) incentivize to complete the program.

Wage schedules are determined by the employer and typically reflect local LMI as well as national and local wage data for the select occupation. Employers must comply with relevant federal and/or state laws when setting wage schedules in the same way they are required to for non-apprentice hires. The wage schedule outlines:

- › starting wage – typically set as a percentage (i.e., 50-80%) of the entry-level wage for an entry-level professional in that occupation
- › one or more stepped increases – while only one increase is required, many employers provide more than one over the course of the program (i.e., upon completion of 25%, 50%, 75% of required OJL tasks)
- › ending wage – ideally the wage of a Journeyworker/professional for that occupation

Following is a sample Apprentice Wage Schedule from a sponsor's program standards:

4. APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journeyworker wage rate, which is: \$39.00.

Sample Wage Schedule: (Wage schedule is for illustration only, wages will be determined by Sponsors based on Local Labor Market Area.)

First 50% competencies plus courses = 75%
Second 50% competencies plus courses = 85%

Work Process

The Appendix A work process is a set of OJL tasks approved by DOL and industry employers nationwide as critical for an apprentice to learn and master. For CB programs the work process includes a suggested rubric to help mentors assess and sign off on apprentices' mastery of each competency area. Following is a sample Cisco NGS Appendix A Work Process schedule description and rubric:



WORK PROCESS SCHEDULE

Network Technician (Alt. Title: Network Engineer)

O*NET-SOC CODE: 15-1244.00 RAPIDS CODE: 1132CB

Description: . Install, configure, and maintain an organization's local area network (LAN), wide area network (WAN), data communications network, operating systems, and physical and virtual servers. Perform system monitoring and verify the integrity and availability of hardware, network, and server resources and systems. Review system and application logs and verify completion of scheduled jobs, including system backups. Analyze network and server resource consumption and control user access. Install and upgrade software and maintain software licenses. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software.

The work process schedule is intended as a guide. It is not to be followed in any particular sequence, and it is understood that some adjustments may be necessary in the apprentice's assignments allotted for different work experience. Overall, an apprentice shall receive sufficient experience to make him/her able to demonstrate a high level of expertise in the work processes which are part of this occupation. In addition, the apprentice shall be fully instructed in safety and OSHA requirements as may be applicable to maintain a safe and healthy work environment.

The following is the rating system that will be used to determine competency:

Rating System	Description	Points
Exceeds All Expectations	Consistently exceeds performance standard established for the time in position. Achieves results above and beyond what is required. Extends themselves in their roles to exceed personally and as a team to achieve exceptional results.	5
Meets & Exceeds Some Expectations	Apprentice not only meets all expectations in a fully satisfactory way, but exceeds some of the objectives.	4
Meets Expectations	Consistently meets the performance standards established for time in position. Handles routine tasks & some unexpected situation with the usual amount of supervision. Can continue to develop with coaching, advanced training or more experience	3
Meets Some Expectations	Apprentice occasionally meets some of the objectives related to this goal, but does not meet others in a fully satisfactory way. This performance level generally indicates the need for additional coaching, training or other plan for performance improvements.	2
Does Not Meet / Meets Some Expectations	Does not consistently meet performance standards established for time in position. Requires basic training, coaching or experience to improve performance and become consistent. Additional follow-up will be necessary.	1
Does Not Meet Expectations	Clearly and repeatedly does not meet the performance standards established for time in position. Additional follow-up and specific suggestions for improvement mandatory.	0

RI

RI is a core component of Registered Apprenticeship; federal guidelines recommend apprentices complete a minimum of 144 RI hours (instructional hours, not academic credit hours) annually. All programs built using the Cisco NGS typically far exceed this requirement based on in-class or online required coursework. Each Appendix A lists the Academy courses for that occupation. Following is a sample RI Outline for one of the Cisco NGS occupations:

Scheduling OJL

Cisco Academy apprenticeship programs require that apprentices – youth in high school or college between the ages of 16-24 – complete paid OJL provided by a participating employer. Each employer can determine how much of an apprentices' OJL will be completed in-person onsite, remotely online, or on a hybrid schedule.

High School Students: For high school students enrolled in a Cisco Networking Academy and registered as an apprentice, the Academy and employer will need to determine the timeline and schedule for at-school RI and OJL. Following is one example:

Post Graduation

- Student continues paid OJL full-time or near full-time.
- Completes any remaining or additional RI at college Academy.
- Completes remaining apprenticeship program requirements within 3-9 months. Earns DOL Journeyworker credential, Cisco certification.



High School: Senior Year

- Student completes Academy courses toward graduation and RI requirements approx. 2 days /week.
- Completes approx. 15-20 hours/week paid OJL.
- Graduates!



High School: Junior Year

- Student begins Academy program, applies for and is hired as an apprentice.
- Completes coursework towards graduation and RI requirements approx. 2/3 days/week.
- Completes approx. 10-15 hours/week paid OJL.



High School: Sophomore Year

- Student learns about the Cisco Networking Academy program and apprenticeship opportunity, may be able to complete pre-apprenticeship activities that could be applied to program requirements.

College Students

Students who enroll in a community college or university-based Academy program will typically have more flexibility in their schedule and be able to complete more hours outside of class as paid OJL during their program.

Step 5: Program Approval

Safal will assist Academies and employers in determining the best sponsorship option, preparing the program standards, and submitting for program approval to the state OA or SAA. In most states the OA or SAA office staff will review and approve standards directly. In some SAA states sponsors will be required to present before a state Apprenticeship Council either in-person or virtually for a brief review of the proposed program and to answer any potential questions. Because the Cisco NGS are DOL-approved for national implementation, and the ATR has worked with the Academy or employer to complete program standards, a state Council meeting is likely to be brief and the program will be approved. Safal will prepare the sponsor for a potential Council meeting if required in their state.

Once approved, the sponsor will receive the final set of Standards and Appendices signed by the registration agency and including a program registration number. The sponsor will also be given access to RAPIDS or the SAA's registration database to officially register each apprentice. Congratulations! It's time to formally announce and launch your program!

Program Launch and Apprentice Registration

Once the program has been developed, approved, and registered it's time to launch. That process is entirely up to the sponsor and can involve:

- creating program marketing material,
- publicizing the program, and
- holding one-time or ongoing events to engage local employers and prospective apprentices.

Apprenticeship program team members should decide on designated roles for program launch events.

Step 1: Announcing Your Program

There are any number of ways that your team can choose to formally announce and launch your program. Consider which audiences you will want to attract such as employers, Academy students, parents, guidance/career counselors, local workforce system organizations, potential funders, etc. Here are some creative ways to make the announcement:



Press Release – Issue a press release to your local and/or targeted media including key information about the program, quotes from local officials, and who readers can contact to learn more. [See a sample press release from an Academy apprenticeship program launch.](#)



Kick-off Event – Creating a formal kick-off event such as a press conference, apprentice signing ceremony, and follow-on opportunity to meet with Academy program staff (i.e. through a “Lunch and Learn” or classroom tour) can generate local awareness and excitement.



Social Media Video – Create a short, captivating video that highlights the benefits and opportunities of your apprenticeship program. Consider engaging your school’s graphics or visual design program to create material that incorporates visually appealing graphics, testimonials, and an upbeat soundtrack to grab attention.



Social Media Teasers – Create a series of visually appealing and short-form content posts on platforms like Facebook, Instagram, Twitter, and LinkedIn. Use catchy graphics, short videos, or animated content to spark curiosity about the apprenticeship program.



Program Microsite – Develop a dedicated webpage on your school or organization’s website that provides comprehensive information about the apprenticeship program, downloadable forms, and an online interest form for employers and/or students.



Interactive Infographic – Develop an interactive infographic that showcases key details about the apprenticeship program. Include clickable elements that reveal more information, such as opportunity for paid OJL, program length and requirements, who to contact to learn more, etc.



Podcast Episode – Produce a podcast episode featuring conversations with successful apprentices, mentors, and industry experts. Discuss the value of apprenticeships, the skills gained, and the impact on career development. Release the episode on various podcast platforms and promote it through social media.



Pop-up Events – Set up interactive pop-up events in high-traffic areas, such as shopping centers or college campuses. Use engaging displays, hands-on activities, and live demonstrations to generate interest in the apprenticeship program. Distribute informational materials and collect contact information for interested individuals.



National Apprenticeship Week Event/Announcement – Every year DOL designates one week in November as National Apprenticeship Week (NAW) and provides a wealth of resources for sponsors to

publicize their programs. [Utilize the NAW tools available on Apprenticeship.gov](https://www.apprenticeship.gov) to engage local officials, plan events, and creatively publicize your team's work!

Remember to tailor your approach to the preferences of your target audience and utilize various channels, such as social media, websites, email newsletters, and local networks, to reach potential applicants effectively.

Step 2: Apprentice Recruiting & Selection Process

Academies can publicize apprenticeship programs as a method of recruiting students – high school or college students – which is a huge benefit to local employers which are looking for consistent, high-quality talent pipelines. Building your apprentice candidate pool begins by communicating the clear benefits of apprenticeship.

Communicating Benefits for Students/Apprentices

The benefits of apprenticeship are clear. Apprentices:

- › are paid from day one for OJL as apprenticeship is an “earn while you learn” model of education
- › gain invaluable industry experience, building occupational competency and developing professional networks while learning workplace norms
- › receive regular mentoring and career support
- › receive post-secondary education resulting in an industry certification; nearly half of cybersecurity professionals (49%) recommend a basic industry certification as an effective method for entering the industry
- › learn in-demand skills and potentially college academic certificates and/or a degree with little or no student loan debt
- › earn a nationally recognized and portable credential, equipped to apply for skilled positions nationwide
- › earn family-supporting wages upon program completion – typically \$70,000 a year — on a clearly defined career pathway
- › earn on average \$300,000 more in lifetime earnings than non-apprentice peers

Apprentice Selection and Application Process

The approved program Standards outline minimum requirements for program participation and the Appendix A lists the work and course completion expectations. Those materials can help your team create basic program marketing materials for prospective apprentice applicants including one-pagers on the program, a microsite/webpage on your program's website, etc. In addition, you may want to consider conducting:

- › an in-class or after-school orientation session for interested applicants,
- › a “Meet and Greet” for students and parents to meet the program team including the employer(s) involved,
- › an offsite field trip for students to job shadow at the employer worksite for a day to get an idea of what the OJL experience will entail

All materials and events should clearly provide students with program expectations, requirements, and policies that were developed during the initial program building process. Selection and application processes, particularly for high school students, could include potential requirements such as:

- › baseline GPA
- › class attendance
- › driver's license (or ability to get to the employer's worksite for OJL)
- › completed application
- › in-person or online interview

After clearly communicating program requirements, Academy instructors and guidance/career counselors can assist students in preparing for employer interviews and provide transparent, data-driven recommendations to employers about students who are meeting program.

Ultimately it is the employer's role and responsibility to create a fair, equitable process for interviewing and selecting apprentices, hiring and outlining the expectations for OJL as well as providing the paid, mentored OJL and, potentially, offering the apprentice full-time employment following program completion. Approximately 92% of all employers retain their apprentices as full-time employees.

Step 3: Registering Academy Students as Apprentices

Once an Academy student has been selected by an employer to be hired as an apprentice s/he will need to complete and sign an [apprenticeship registration agreement form](#). In addition all apprentices are asked to consider completing a [Voluntary Disability Disclosure Form](#); all program documentation is kept confidential and does not impact an applicant's candidacy.

The ATR and Safal can assist the sponsor in understanding how to access and use the online system to register apprentices. The federal system used in most states, called RAPIDS, is an easily accessible and secure apprentice registration system; it typically takes only 2-3 minutes to register each apprentice.

Program Evaluation and Continuous Improvement

Organizations nationwide have maintained, continually improved, and sustained apprenticeship programs for decades to meet local labor market needs and provide apprentices with paid, quality training and an accelerated pathway for full-time employment in high-demand occupations. Creating a plan to monitor program and apprentice performance for the purposes of making needed modifications will ensure a relevant program providing value for Academies, students, and local employers.

Step 1: Evaluating the Program

To ensure long-term program sustainability and apprentice success, the program team should meet regularly to evaluate program effectiveness, discuss program successes and challenges, evaluate, and modify program elements as needed, and engage additional organizations. The first step is **collectively determining measures of success** which may include:

- › **apprenticeship completion rates** - the number of apprentices who successfully complete the program compared to the total number of participants
- › **credential attainment rates** – the number of apprentices who successfully complete their RI and test to earn a Cisco certification
- › **program conversion rates** – the number of apprentices who complete a program and are retained as full-time employees or secure full-time employment in their occupation with another employer (note: this requires post-graduation apprentice tracking for Academy sponsors)
- › **employer satisfaction rates** – industry partners' satisfaction with the skills, competencies, and work readiness of apprentices
- › **apprentice satisfaction rates** – apprentices' satisfaction with the process and preparation for applying to the program, their OJL experience, and likelihood to remain in the occupation/field post-program completion
- › **faculty satisfaction** – instructors' satisfaction with program implementation, curriculum, and support
- › **cost/benefit analysis** – determining program costs compared to accessed revenue/funding support

Once the team has determined program effectiveness goals, there are several **quantitative and qualitative methods** to consider when evaluating a program including:

Quantitative Evaluation Sources

Apprenticeship System Database: Each apprentice will be registered by the program sponsor in the state's apprenticeship system. [All OA states and many SAA states use RAPIDS](#). Apprentices' progress, or lack thereof, will be recorded.

Monitoring apprentice progress includes review of program elements including:

- › OJL task completion and competency mastery
- › RI progression and completion
- › Wage progression
- › Program completion rates and cancellation (withdrawal prior to completion) rates
- › Credential attainment

In addition to updating individual apprentice performance data on an ongoing basis, program sponsors should utilize the apprentice-level data to review overall program performance at least annually to determine factors such as:

- › Overall program completion rates
- › Completion rates by key factors such as:
 - Ethnicity
 - Gender
 - Disability and/or Veteran status
- › Program non-completion/exit rates

Academy Data

Hybrid/Qualitative Evaluation Methods: In addition, Academies should use qualitative evaluation methods – or methods gathering a hybrid of quantitative and qualitative data - from participating employers, apprentices, faculty, and partners to assess program effectiveness. Qualitative data/feedback methods can include:

- › Online surveys – sites like JotForm and SurveyMonkey provide easy methods for surveying, aggregating and analyzing data, and data visualization for reporting to key stakeholders
- › Interviews
- › Focus groups

The goal in creating questions used in any evaluation method should be determining elements of program effectiveness such as:

- › overall employer satisfaction with apprentice performance
- › employer satisfaction with RI curriculum and/or suggestions for improvement
- › effectiveness of mentoring and mentor selection
- › overall apprentice satisfaction with OJL experience
- › apprentice understanding of program and performance requirements, opportunities for future full-time, non-apprentice employment, etc.
- › program gaps and opportunities

Step 2: Continuous Program Improvement

Once you have collected data and feedback, the team should then analyze responses and results to identify the program's strengths, weaknesses, and areas for improvement. Look for patterns and trends to gain a comprehensive understanding of the program's effectiveness. Utilize the evaluation findings to make necessary adjustments and enhancements to the program.

Continual Program Improvement



Potential areas for ongoing improvement may include:

- › **Curriculum Refinement:** Modify or update the curriculum based on industry standards, emerging trends, and feedback from industry partners and apprentices.
- › **Instructional Modifications:** Assess and enhance teaching methods, incorporating innovative approaches, hands-on experiences, and technology tools to better engage apprentices and foster skill development.
- › **Support and Guidance Enhancement:** Identify areas where apprentices may require additional support, such as mentorship programs, career counseling, or academic resources, and make appropriate enhancements.
- › **Stakeholder Collaboration:** Engage in regular communication and collaboration with industry partners, faculty, and apprentices to foster an ongoing feedback loop, ensuring their insights inform program improvements.

By implementing a robust evaluation system and leveraging feedback from apprentices, industry partners, and faculty, your educational institution can effectively determine the program's effectiveness and make data-driven decisions to refine and continually improve the apprenticeship program.

Step 3: Formal Program Modification, Expansion

Safal can work with each sponsor and their ATR to make modifications to a program's Appendix A documents for each occupation. Modifications can include wage schedule changes, additions or changes to the work process tasks, updates to the RI outline, etc.

If a sponsor decides at any point to expand their program by adding another Cisco NGS occupation the ATR will use the same process described in Step 4 under Program Development and Registration to complete the Appendix A, submit to the state OA or SAA or state Apprenticeship Council for review and approval.

For more Information

To learn more and connect with the Safal team to discuss how your Academy can engage in Registered Apprenticeship contact:

- Katie Adams, Chief Delivery Officer, katie.adams@safalpartners.com
- Gene Ellis, Senior Apprenticeship Subject Matter Expert (SME), gene.ellis@safalpartners.com
- Angela Baker, Apprenticeship SME, angela.baker@safalpartners.com
- Kristen Harkness, Project Manager, Kristen.harkness@safalpartners.com

Appendix 1

Initial Academy Apprenticeship Program Pilot

To help focus Cisco efforts testing, learning from, and scaling apprenticeship using the approved NGS, Cisco has selected six initial states for pilot work. Following are the states and apprenticeship system contact information:

State	
California	> U.S. Department of Labor Office of Apprenticeship – California > California Division of Apprenticeship Standards (DAS)
Georgia	U.S. Department of Labor Office of Apprenticeship – Georgia
New Jersey	U.S. Department of Labor Office of Apprenticeship – New Jersey
North Carolina	ApprenticeshipNC
Texas	U.S. Department of Labor Office of Apprenticeship - Virginia
Virginia	Virginia Department of Labor & Industry (DOLI)

Useful Links

- > [Apprenticeship.gov](#)
 - [The Federal Resources Playbook for Registered Apprenticeship](#)
 - [State Tax Credits and Tuition Support](#)
- > [Quick-Start Toolkit: DOL Guide to Building Apprenticeship Programs](#)
- > [Find Your Local Workforce Development Board](#)
- > [RAPIDS \(requires login.gov for access\)](#)

Forms

- > [Appendix A: \(Sample\) Standards of Apprenticeship](#)
- > [Appendix B: \(Sample\) DOL Apprentice Registration \(“671”\) Form](#)
- > [Appendix C: Affirmative Action Program Reference Guide](#)
- > [Appendix D: \(Sample\) Qualifications and Selection Procedures](#)
- > [Voluntary Disability Disclosure Form](#)

Glossary

Term	Acronym	Definition
Appendix A (See Work Process)		Work process schedule for On the Job Learning (OJL) and Related Instruction (RI) Outline. Also on Appendix A: ▪ Apprenticeship Approach, i.e., TB, HY, or CB ▪ Term of Apprenticeship (length in hours or years) ▪ Ratio of Apprentices to Journeyworkers ▪ Apprentice Wage Schedule ▪ Probationary Period

		Selection Procedures
Apprentice		Any individual at least 16 years of age employed by the employer meeting the qualifications described in the standards of apprenticeship who has signed an apprenticeship agreement with the local sponsor providing for training and related instruction under these standards and who registers with the Registration Agency.
Apprenticeable Occupation		An apprenticeable occupation is one which is specified by industry, and which must: (a) Involve skills that are customarily learned in a practical way through a structured, systematic program of on-the-job supervised learning. (b) Be clearly identified and commonly recognized throughout an industry. (c) Involve the progressive attainment of manual, mechanical or technical skills and knowledge which, in accordance with the industry standard for the occupation, would require the completion of at least 2,000 hours of on-the-job learning to attain; and (d) Require RI instruction to supplement the on-the-job learning.
Apprenticeship Agreement (Form 671)		The Apprenticeship Agreement is a written agreement, complying with 29 CFR §29.7, between an apprentice and either the apprentice's program sponsor, or an apprenticeship committee acting as agent for the program sponsor(s), which contains the terms and conditions of the employment and training of the apprentice.
Certificate of Completion		The credential issued by the Registration Agency to those registered apprentices certified and documented as having successfully completed the apprentice training requirements outlined in these standards of apprenticeship.
Collective Bargaining Agreement	CBA	The negotiated agreement between the signatory union and signatory employer(s) that sets forth the terms and conditions of employment.
Competency-Based	CB	An occupation using an apprenticeship approach that requires the attainment of manual, mechanical, or technical skills and knowledge, as specified by an occupation standard and demonstrated by an appropriate

		written and hands-on proficiency measurement.
Credential		Industry-recognized credentials are those that reflect the specific competencies needed for a given industry or occupational area.
Employer		Any person or organization employing an apprentice, whether or not such person or organization is a party to an apprenticeship agreement with the apprentice. A person, business, or company signatory to this sponsor's standards that is responsible for providing hours of work, supervision, wages, and/or benefits to apprentices in its employ as registered under these standards.
Appendix D (Employer Acceptance Agreement)	EAA	A mechanism by which Employers may opt to use Sponsors' Standards instead of developing a program in their name. Example: An Industry Association Sponsors a "group" program and individual member companies sign an EAA to register and employ apprentices under the associations Standards.
Hybrid	HY	An occupation using an apprenticeship approach that measures the individual apprentice's skill acquisition through a combination of a specified minimum number of hours of on-the-job learning and the successful demonstration of competency as described in a work process schedule.
Intermediary		Intermediaries are organizations uniquely positioned to convene employers within an industry or sub-sector to determine skill needs and workforce trends and to work with employers on a local, regional, and/or national level to develop apprenticeship programs with the goal of increasing the number of apprenticeship opportunities. Intermediaries serve as a conduit between employers and other industry partners and the DOL's OA to accelerate apprenticeship program development and help create new sector-based apprenticeship. Intermediaries usually specialize in a specific sector, but some may possess expertise that cuts across more than one market.
Journeyworker		A worker who has attained a level of skills, abilities, and competencies recognized within an industry as mastery of the skills and competencies required for the occupation. The term may also refer to a mentor, technician, specialist, or other skilled worker

		who has documented sufficient skills and knowledge of an occupation, either through formal apprenticeship or through practical on-the-job experience and formal training.
Local Workforce Development Board	LWDB	The boards' role is to develop a plan for administering WIOA funding priorities for their area in serving job seekers and employers.
Mentor		See Journeyworker
National Guideline Standards	NGS	NGS are templates of high-quality apprenticeship program standards approved by DOL OA for use by entities to register with a state OA or SAA.
On-the-Job Learning	OJL	Tasks learned on-the-job in which the apprentice must become proficient before a completion certificate is awarded. The learning must be through structured, systematic, supervised work experience.
Registered Apprenticeship Partners Information Data System	RAPIDS	A federal system (online database) that provides for the automated collection, retention, updating, retrieval, and summarization of information related to apprentices and apprenticeship programs.
Registered Apprenticeship	RA	A proven model of apprenticeship that has been validated and approved by DOL OA or an SAA.
Registration Agency		DOL's Office of Apprenticeship or a recognized State Apprenticeship Agency (SAA) that has responsibility for registering apprenticeship programs and apprentices, providing technical assistance, conducting reviews for compliance with 29 CFR § 29 and 30, and conducting quality assurance assessments.
Related Instruction	RI	An organized and systematic form of instruction designed to provide the apprentice with knowledge of the theoretical and technical subjects related to the apprentice's occupation. Such instruction may be given in a classroom, through occupational or industrial courses, or by correspondence courses of equivalent value, electronic media, or other forms of self- study approved by the Registration Agency.
Related Instruction Provider	RI Provider	Any entity delivering relevant, occupationally specific, educational content as determined and approved by the sponsor/employer and Registration Agency. Provider may be educational institution, private or association based online or correspondence, or sponsor/employer based.

Sponsor		Any entity approved by DOL OA or SAA to operate a Registered Apprenticeship program and in whose name the program is (or is to be) registered or approved.
Time-Based	TB	A Registered Apprenticeship program requiring that apprentices complete at least 2,000 hours of OJL, and hours completed against program requirements are signed off on by the apprentices' mentor.
Wage Progression		A progressively increasing schedule of wages to be paid to the apprentice consistent with the skill acquired. The entry wage must not be less than the minimum wage prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage is required by other applicable Federal law, State law, respective regulations, or by collective bargaining agreement.
Work Process (See Appendix A)	WP	An outline of the tasks in which the apprentice will receive supervised OJL for the purpose of becoming a certified professional..
Workforce Innovation Opportunity Act	WIOA	The Workforce Innovation and Opportunity Act (WIOA), signed into law on July 22, 2014 and designed to help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy. For additional general information about WIOA visit the DOL website .



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