National Urban League

Urban League OF CENTRAL CAROLINAS, INC.    WIA    TIRAP    MMTC Multicultural Media, Telecom and Internet Council    NC COMMUNITY COLLEGES | APPRENTICESHIP NC
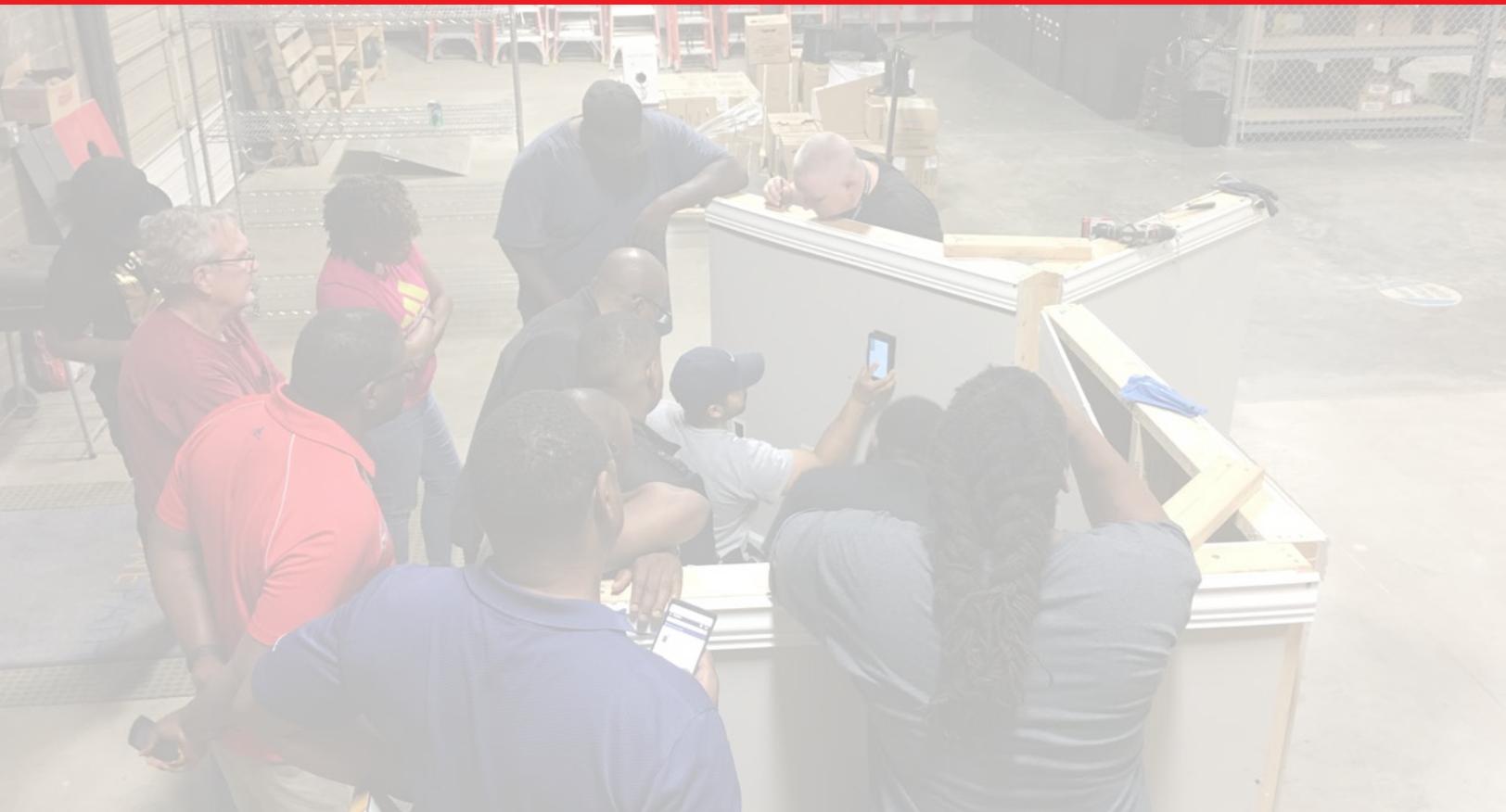
The Urban League of Central Carolinas

# Fiber Optic Broadband and Premise Cabling
Pre-Apprenticeship Program Case Study

A Partnership with Telecommunications Industry Registered Apprenticeship Program

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# Fiber Optic Broadband and Premise Cabling
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## THE CASE

The nation has been on the dawn of the next generation in wireless for several years now. Fifth-generation, or 5G, networks promise significantly increased speeds and data capacity for users, as well as an increased demand for telecom infrastructure build-out.

As companies race to upgrade, expand, and build out their networks, we face a demand for trained technology professionals – yet the nation, and especially women and communities of color, continue to lag in the STEM education necessary to become the skilled labor force required to fulfill this need. A registered apprenticeship program is a workforce development strategy gaining traction within the wireless industry to address this challenge.

Registered Apprenticeship is a proven approach for preparing workers for jobs while meeting the needs of business for a highly-skilled workforce. Registered Apprenticeship is an employer-driven, earn while you learn model that combines on-the-job training provided by the employer that hires the apprentice,

with job-related instruction in curricula tied to the attainment of national skills standards. The model also involves progressive increases in an apprentice's skills and wages.

Future wireless networks including 5G will require very robust infrastructure that can handle massive data growth. Fiber optic cable-based infrastructure can support this growth due to its seemingly boundless capacity. Wireless and wireline industries have begun planning the expansion of the fiber optic-based networks and will be in need of a skilled workforce that can design, deploy, and maintain these networks.

This Case Study examines the Urban League of Central Carolinas' (ULCC) Fiber Optic Broadband and Premise Cabling Technician Training Program, as a "best practices" model that can be used by Urban League affiliates to achieve goals of creating successful pre-apprenticeship programs in the wireless telecommunications sector.



*The Urban League of Central Carolinas holds quarterly graduations. These ceremonies are a celebration of the career mobility of clients and a great opportunity for social capitol as program sponsors (mostly employers) and board members are invited to these events.*

# Fiber Optic Broadband and Premise Cabling

### NATIONAL URBAN LEAGUE

The National Urban League is a historic civil rights organization dedicated to economic empowerment in order to elevate the standard of living in historically underserved urban communities. Founded in 1910 and headquartered in New York City, the National Urban League spearheads the efforts of its local affiliates through the development of programs, public policy research and advocacy. Today, the National Urban League has 88 affiliates serving 300 communities, in 36 states and the District of Columbia, providing direct services that impact and improve the lives of more than 2 million people nationwide.

The mission of the National Urban League movement is to empower African Americans and other residents of urban communities to secure economic self-reliance, parity, power and civil rights. Our vision is "Every American has access to jobs with living wage and good benefits."

Funded by the United States Department of Labor Office of Apprenticeship, NUL is an equity contractor for Registered Apprenticeship Programs. The primary objective of the Urban Apprenticeship Jobs Program is to expand access to and opportunities within registered apprenticeship programs on the part of people of color and women. Specifically, NUL is targeting efforts in the following industries: construction, telecommunications, information technology, manufacturing, transportation and health care.

The Urban Apprenticeship Jobs Program supports the diverse community of companies that make up the nation's apprenticeship ecosystem by providing employers, industry associations, and the industry with dedicated resources, advocacy, expertise and networking through a variety of activities and events. NUL apprenticeship subject matter expertise are located locally across 30+ affiliates.

### URBAN LEAGUE OF CENTRAL CAROLINAS

The Urban League of Central Carolinas is a multi-service, non-profit agency, organized in 1978. Its mission is to empower the community to attain financial stability and social justice in a global economy through education, training and placement. The range of programs offered can benefit anyone in need of education, career development, financial empowerment and youth programs. ULCC serves persons from all economic backgrounds. The success of their Continuum of Opportunity Model is enhanced through investments by key community partners focused on social mobility and economic opportunity.

### EMPOWERING COMMUNITIES AND CHANGING LIVES

The Urban League of Central Carolinas is celebrating 40 years of empowering communities and changing lives through dynamic workforce development, educational and financial empowerment programs. These programs have broken cycles of unemployment and underemployment for tens of thousands of local residents in need.

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### WIA/TIRAP

The Wireless Infrastructure Association (WIA) is the national trade association of companies that develop, build, own and operate the nation's wireless infrastructure. Members include wireless carriers, infrastructure providers, and professional services firms that collectively own and operate telecommunications facilities around the globe. Through public affairs and advocacy efforts – on the local, state and federal level – WIA works to support the widespread deployment of wireless infrastructure in order to enable wireless broadband everyday. WIA is the National Sponsor of TIRAP – Telecommunications Industry Registered Apprenticeship Program.

TIRAP is a joint venture of telecommunications companies, industry associations and the U.S. Department of Labor (USDOL) tasked with developing USDOL-credentialed apprenticeship programs available to qualified employers for the training and career development of the telecommunications workforce. TIRAP's mission is to partner with stakeholders to promote safety, enhance quality, and enable education and advancement opportunities in the telecommunications workforce that will meet network infrastructure build out needs.

### MULTICULTURAL MEDIA, TELECOM AND INTERNET COUNCIL

The Multicultural Media, Telecom and Internet Council (MMTC) is a national nonprofit organization dedicated to promoting and preserving equal opportunity and civil rights in the mass media, telecommunications and broadband industries, and closing the digital divide. MMTC is generally recognized as the nation's leading advocate for minority advancement in communications. We strongly believe that the breathtaking changes in communications technology and the new global forms of media partnerships must enhance diversity in the 21st century.

### NATIONAL URBAN LEAGUE CONSORTIUM

This Consortium is led by the National Urban League (NUL), along with the Multicultural Media, Telecom and Internet Council (MMTC) and the Wireless Infrastructure Association (WIA), created to diversify Registered Apprenticeship in the U.S. the NUL Consortium is bridging the employment gap by exposing underrepresented populations to vocations that support and strengthen America's most important industries. For these populations, this consortium creates pathways to training and opportunities for the jobs of the future.

The NUL Consortium offers assistance to companies across the largest U.S. sectors to build, expand, and diversify Registered Apprenticeship Programs with the goal of diversifying their workforce. The NUL Consortium provides resources and informational materials, surveys companies to assess their current levels of diversity and inclusion and determine outreach and inclusion goals, and helps companies build detailed EEO Programs and Affirmative Action Plans.

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# PRE-APPRENTICESHIP VALUE STATEMENT

Pre-Apprenticeship Programs empower participants to make informed decisions about which craft or industry they will pursue. These training programs are often provided by community-based organizations with strong ties to local employers and registered apprenticeship sponsors. The goals of pre-apprenticeship programs are to **(1)** increase the number of candidates for apprenticeship across multiple industries, **(2)** to increase the diversity of apprenticeship candidates by recruiting women, people of color and veterans, and **(3)** to increase the retention rate among apprentices by providing them with a deeper understanding of both the industry and their role/occupation within the industry.

In some cases, employers view pre-apprenticeship programs as human resources service providers because they conduct outreach, recruitment and screening of potential employees. This provides industry with a pre-screened labor pool that is prepared with the skills and knowledge required for entry-level employment. In many cases, this also encourages employers to hire from communities they have not historically connected with via their traditional recruitment channels.

On January 12, 2017, USDOL's Employment and Training Administration released Training and Employment Guidance Letter (TEGL) Number 13-16 which outlined, in part, the following elements of a pre-apprenticeship program:

- Training and curriculum that aligns with the skill needs of employers in the economy of the State or region involved;
- Access to educational and career counseling and other supportive services, directly or indirectly;
- Hands-on, meaningful learning activities that are connected to education and training activities, such as exploring career options, and understanding how the skills acquired through coursework can be applied toward a future career;
- Opportunities to attain at least one industry-recognized credential; and
- A partnership with one or more Registered Apprenticeship programs that assists in placing individuals who complete the pre-apprenticeship program into a Registered Apprenticeship program.

ULCC and WIA/TIRAP, quickly came to the consensus that ULCCs' Fiber Optic Broadband & Premise Cabling program would be ideal as a pre-apprenticeship program as defined by USDOL.  But first, a new TIRAP occupation would need to be created and approved by USDOL.   A small project team worked on the design, development, and ultimate approval of the Fiber Optic Technician occupation (O*NET-SOC  Code 49-20121.00/ RAPIDS Code 2064CB). Lessons learned and challenges from this experience are shared in Section 8 of this case study.

According to Adult learning Australia, pre-apprenticeship jobs and trainings are extremely beneficial. Pre-apprenticeships yields strong support from employers and training providers, and they improve the number of individuals taking up an apprenticeship and completing it.

The (pre-apprenticeship) program is a valuable training that increases apprentice completion rates as it caters to one of the main causes of non-completion which is, the gap between the expectations of a new apprentice and the reality of life in the trade.
- ALA

Adult Learning Australia

# PRE-APPRENTICESHIP DEFINITION AND QUALITY FRAMEWORK

Pre-apprenticeship is defined here 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).  A quality TIRAP pre-apprenticeship program is one that incorporates the following elements:

- **Approved Training and Curriculum.**  Training and curriculum based on industry standards and approved by the documented TIRAP Standards of Apprenticeship that will prepare individuals with the skills and competencies needed to enter one or more of the TIRAP apprenticeable occupations (see TIRAP Standards – Appendices A);
- **Strategies for Long-Term Success.**  Strategies that increase Registered Apprenticeship opportunities for under-represented, disadvantaged or low-skilled individuals, such that, upon completion, they will meet the entry requirements, gain consideration, and are prepared for success in TIRAP sponsored employer-partner program(s) including the following:

  - Strong recruitment strategies focused on outreach to populations under- represented in local, state, and national TIRAP sponsored employer-partner program(s);
  - Educational and pre-vocational services that prepare individuals to meet the entry requisites of one or more Registered Apprenticeship programs (e.g. specific career and industry awareness workshops, job readiness courses, English for speakers of other languages, Adult Basic Education, financial literacy seminars, math tutoring, etc.); and
  - Assists in exposing participants to local, state and national TIRAP sponsored employer-partner program(s) and provides direct assistance to participants applying to those programs;

- **Access to Appropriate Support Services.**  Facilitates access to appropriate support services during the pre-apprenticeship program and a significant portion of the Registered Apprenticeship program;
- **Promotes Greater Use of Registered Apprenticeship to Increase Future Opportunities.**  To support the ongoing sustainability of the partnership between pre-apprenticeship providers and Registered Apprenticeship sponsors, these efforts should collaboratively promote the use of Registered Apprenticeship as a preferred means for employers to develop a skilled workforce and to create career opportunities for individuals;
- **Meaningful Hands-on Training that does not Displace Paid Employees.**  Provides hands-on training to individuals in a simulated lab experience or through volunteer opportunities, when possible, neither of which supplants a paid employee but accurately simulates the industry and occupational conditions of the partnering Registered Apprenticeship sponsor(s) while observing proper supervision and safety protocols.

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### URBAN LEAGUE OF CENTRAL CAROLINAS FIBER OPTIC ASSOCIATION SCHOOL

At the dawn of the Digital Age, the Urban League of Central Carolinas saw a need in the Charlotte-Mecklenburg community to create workforce development programs to empower the local community through living-wage and family-sustaining employment. In 2008, ULCC conducted extensive research in its book, "Faces of Reality: The State of Ethnic Charlotte." The book examines economics, education, health, and social justice among ethnic populations in the Charlotte-Mecklenburg area and exposes large deficits in opportunity for community members and an untrained – yet very capable – workforce.

In 2013, a Harvard University/UC Berkeley study uncovered the other part of the story: the community ranked 50th out of 50 in economic mobility – that is, the ability of a child born in the bottom income quintile to rise to the top income quintile as an adult – among the largest U.S. cities. If you are poor and grow up in Mecklenburg County, you have among the worst chances in the country of climbing the income ladder as you get older. That's according to a study by a group of researchers at Harvard, who looked at the earnings records of millions of families. The study found that poor children in Stanly County, just two counties over, have a much better chance at earning more money as adults. Because of this need, Patrick Graham, James Burns, and Scott Coulter, three concerned Charlotteans with backgrounds in Fiber, launched the Michael Mentor Workforce Development Program at ULCC.

James Burns, who is a Lead Project Manager (NC/SC, IBS, DAS/Small Cell) at T-Mobile, has been the main instructor for the ULCC Fiber Program since its inception in 2008. With over 26 years in the field, Burns brings a wealth of knowledge to the classroom. His up-close experience with the industry enlightened him to the need for a diverse talent pool. Even more, as a native-Charlottean, Burns knew the impact this program would have on the local economy and neighborhoods.

Burns quickly learned that in order for ULCC program graduates to be successful, he had to incorporate bringing companies into the classroom. "I can't take anything from the curriculum, but I can add to it," said Burns. "I knew the fiber industry was constantly adapting to consumer needs, and I had to have hiring companies involved in curriculum mapping."

Thanks to their unique approach, over the last 9 years, James Burns and his team of instructors have had a 96 percent success rate in certifying and graduating participants in the ULCC Fiber Optic and Broadband Program.

ULCC has successfully conducted eight Fiber Optic and Broadband courses annually. With the industry's dedication to hiring diverse talent as it prepares a new workforce to fit its developing needs, programs such as these illuminate equitable opportunities to empower underrepresented communities.

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At Charter/Spectrum we appreciate the value of quality training and career development, and we use an apprenticeship model for training our field technicians," said Seth Feit, Group Vice President, talent, Charter Communications. "With the new designation of a registered pre-apprenticeship program, the ULCC  Fiber Optic Broadband Certification program is a great source of talent for companies like ours. We greatly appreciate the DOL's and NUL's efforts to identify career pipelines into the telecom industry as apprenticeship programs are key to our efforts to attract, train and retain a high-skilled, diverse and locally based workforce."

## BENEFITS OF REGISTERED APPRENTICESHIP(RA) ADOPTION FOR BUSINESSES

1. Reliable Pipeline: RA creates a reliable pipeline of skilled talent for specific business needs. In particular, the on-the-job training feature of RA ensures that the apprentice is trained for the specific skills that are needed and desired by the employer.
2. Recruitment and Retention: The RA model improves recruitment and, therefore, retention by enabling businesses to overcome recruitment challenges while at the same time achieving a higher retention rate at the end of the program by having a "trial run" with the prospect.
3. Industry Recognition and Commitment: Participation in RA enables businesses to be recognized in the industry and sets than apart from competition. Also, it reinforces their commitment to help improve American workforce.
4. Improves Global Competitiveness: RA strengthens the capacity of employers to compete in the global economy. Also, RA provides a unique platform to retain specialized job skills training. Many skills required for some unique occupations cannot be taught in the classroom and could become obsolete if RA model is not available.
5. Diversity Commitment: RA gives the employer a sense of belonging in an elite network of employers/ businesses/industries who value the importance of investing in local and diverse workforce.

## CONNECTIVITY EXPO - CONNECT (X) -  HOSTED BY THE WIRELESS INFRASTRUCTURE ASSOCIATION
### WORKFORCE WORKSHOP SERIES



*Panel: Optimize Your Workforce through Apprenticeship*

The skills gap is a threat to American growth and competitiveness. As employers are making more sophisticated "make and buy" decisions for talent management, they are establishing networks and alliances to source core capabilities. To build their core capabilities, leading employers are focusing on talent pipeline management strategies that combine (1) career advancement from their existing workforce, (2) job-ready workers accessible through networked recruitment and staffing partners,  (3) new entrants to the workforce with recent customized education and training and (4) from alliances with workforce development partners.



"Partnering with the Urban League has been beneficial to fully realizing talent pipelines. Having the connections to local workforce ecosystem is a great value in developing strong and sustainable programming."
**- Deb Bennett, TIRAP Director of Apprenticeship Wireless Infrastructure Association**

# Fiber Optic Broadband and Premise Cabling

Pre-Apprenticeship Program



## APPRENTICESHIPNC MISSION

The mission of ApprenticeshipNC is to ensure North Carolina has an innovative, relevant, effective, and efficient workforce development system that develops adaptable, work ready, skilled talent to meet the current and future needs of workers and businesses to achieve and sustain economic prosperity.

## APPRENTICESHIPNC/ULCC PARTNERSHIP

In seeking opportunities to grow the ULCCs' newly named pre-apprenticeship program, Maya Norvel, Director of Marketing and Communications at ULCC reached out to the North Carolina State office of Apprenticeship, ApprenticeshipNC, to learn more about their specific goals and to propose registering the program with the State of North Carolina.

"It is important to maximize the exposure of ULCCs' fiber broadband program as a pre-apprenticeship opportunity," said Norvel. "We must make sure potential participants and employers are aware of the new opportunities that are now available with this new registration. ApprenticeshipNC will expose the program to the apprenticeship ecosystem. This is of great value because as the telecom industry continues to grow locally and state-wide, our combined work helps bridge the skill gaps that exist with the local workforce. Once individuals receive technical training and are exposed to various career paths, this partnership will assist in marketing highly-skilled, ready-to-hire talent. At the Urban League, we do not believe in building bridges to nowhere and strong partnering has been a winning strategy," Norvel concluded.

## APPRENTICESHIPNC/ULCC FIBER OPTIC PRE-APPRENTICESHIP GOALS AND PURPOSE

Experience has demonstrated that a practical and sound method of preparing workers for employment in skilled occupations is through formalized training which provides for employment and training under actual job conditions supervised by qualified workers and at wages commensurate with the Trainee's skill. Through registration with the State of North Carolina, ULCC will meet and exceed the following goals:

1. Operate the Pre-Apprenticeship Program in accordance with these Standards and inform those affected by the program of its provisions.
2. Maintain the necessary facilities to assure effective training in all aspects of the occupation and provide liability insurance if applicable.
3. Assure Pre-Apprentices are under the supervision of qualified or fully skilled personnel.
4. Exercise precaution for the health and safety of Pre-Apprentices during all components of the Program.
5. Provide a positive learning environment and encourage training at all levels.
6. Provide fair and equitable treatment for all Pre-Apprentices.
7. Notify the Registration Agency of any change in status of Pre-Apprentices, including cancellation and completion of the Program.
8. Maintain all records of the pre-apprenticeship program. The records will be made available on request to the North Carolina Community College System Office or another authorized representative.

"At ApprenticeshipNC, we love to partner with programs that provide proven technical training to bridge the skills gap within specific industries. ULCCs' designation as a recognized pre-apprenticeship program with the State will enhance employment opportunities for underserved residents and encourage additional public/private partnering. This provides dynamic classroom and hands-on experiences for participants. As North Carolina aims to connect rural counties referred to as "digital desserts," to digital highways and provide more opportunities for undeserved individuals, the State is encouraging partnerships like this that provide opportunities to live, work and thrive in the same place."

**Eric Tillman, ApprenticeshipNC Consultant, NC Community College System**

Empowering Communities.
Changing Lives.

The Urban League of Central Carolinas

# Fiber Optic Pre-Apprenticeship Toolkit

Pre-Apprenticeship Program

A Partnership with Telecommunications Industry Registered Apprenticeship Program

# PREFACE

This Toolkit is a comprehensive account of the Urban League of Central Carolinas' (ULCC) Fiber Optic Broadband and Premise Cabling Technician Training Pre-Apprenticeship Program. As the first of its kind, established in 2008 as a Fiber Optic Association (FOA) School and reestablished in June 19, 2018 as a pre-apprenticeship program sponsored by the Telecommunications Industry Registered Apprenticeship Program (TIRAP), ULCCs' Fiber Optic Pre-Apprenticeship Program Toolkit will be utilized as a roadmap for similar program development through the Urban League's robust network. This deployment of tech-rich programming, lays the foundation for multifaceted career pipelines and achieve goals of successfully creating access points for underserved communities into the telecommunications sector.

As telecommunication companies respond to an increased demand for a national telecom infrastructure buildout, they are racing to upgrade and expand their networks. The industry is facing a high demand for trained technology professionals – yet the nation, and especially women and communities of color, continue to lag in the STEM education necessary to become the skilled labor force required to fulfill this need. A registered apprenticeship program is a workforce development strategy gaining traction within the wireless industry to address this challenge.
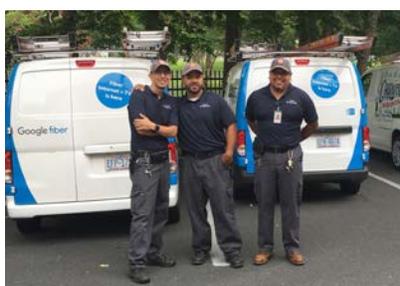
# TOOLKIT OUTLINE

Phased Registration Process

Program Overview

Comprehensive Curriculum Map

Core Skills and Career Exposure

Program Impacts and Outcomes (Sept. 2017 - Sept. 2018)

Funding

Strategic Partnerships

Recruiting

Intake/ Enrollment Requirements

Reporting and Data

Appendix A: TIRAP Registration MOU

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The (pre-apprenticeship) program is a valuable training that increases apprentice completion rates as it caters to one of the main causes of non-completion which is, the gap between the expectations of a new apprentice and the reality of life in the trade.

Pre-apprenticeship training is a great way for sponsors to:

- Streamline the recruitment process
- Pre-screen a qualified, job-ready apprentice pool
- Diverse pool of prepared candidates,
- Align training with apprenticeship standards,
- Increase retention rates for registered apprenticeship participants
- Quality control over preparatory training

*- The Department of Labor*

# PHASES OF THE PRE-APPRENTICESHIP REGISTRATION PROCESS
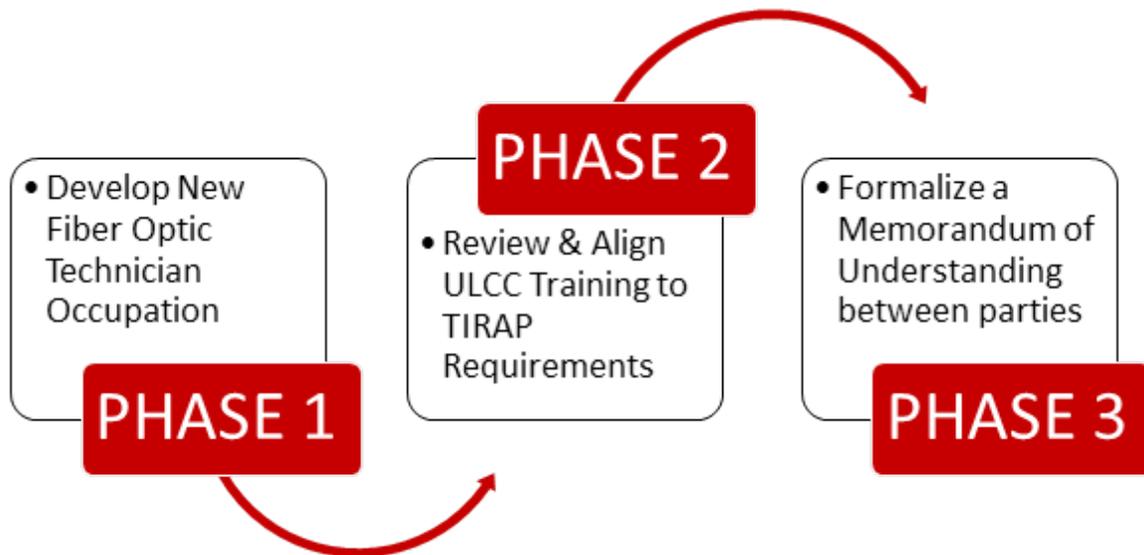


## Phase 1 - *Development & Approval of USDOL Occupation for Fiber Optic Technician*

To consider ULCC as a pre-apprenticeship program for TIRAP, a new occupation had to be developed. Justification for a fiber optic technician occupation was easy; future wireless networks including 5G will require very robust infrastructure that can handle massive data growth. Fiber optic cable-based infrastructure can support this growth due to its seemingly boundless capacity.

The TIRAP Board of Directors was approached with a formal request for development of the occupation. Having industry subject matter expertise on the NUL Consortium Team alleviated any concerns the Board may have had about delegating this work outside the normal process. In addition, ULCC is an approved Fiber Optics Association (FOA) training school.  The FOA is an international non-profit educational association chartered to promote professionalism in fiber optics through education, certification and standards. Founded in 1995 by a dozen prominent fiber optics trainers and industry personnel as a professional society for fiber optics and a source of independent certification, the FOA has grown to now being involved in numerous activities to educate the world about fiber optics and train the workers who design, build and generate the world's fiber optic networks. Having industry subject matter expertise on the team, coupled with the reputation of FOA made for a quick approval from the TIRAP Board to proceed with the project.

Following development of the work process schedule for the occupation, the document was then submitted to USDOL for review and approval. This was a straight forward process and relied on the assistance of dedicated professionals with long standing ties to TIRAP.

## Phase 2 - *Review & Align ULCC Training to TIRAP Requirements*

RTI Providers must provide their curriculum to WIA/TIRAP for review and alignment with TIRAP RTI requirements.  This process, often referred to as "curriculum mapping", lets WIA/TIRAP collect and record curriculum-related data that identifies the core skills and content taught, the processes employed, and the assessments used by the RTI provider for each topic. The completed curriculum map then becomes an exhibit to the Memorandum of Understanding and documents the number of transferable hours, or prior RTI credit, the graduate brings when employed by a TIRAP Participating Employer.

This process proved more challenging than first thought.  FOA has restrictions on sharing the curriculum, instructor's guide and actual classroom content with individuals and groups outside of their approved trainers and facilities.  The group adapted by reviewing a wide variety of publicly available material and by conducting interviews with FOA leadership. In retrospect, the group should have inquired about a Non-Disclosure Agreement with FOA early in the process and potentially had access to the material much sooner.

A template was created to capture this information.  A simple MS Excel spreadsheet recorded the WIA/TIRAP requirements and provided space to align the complimentary ULCC content.  It became evident that ULCC provided training in areas, that although not aligned with WIA/TIRAP requirements, TIRAP Participating Employers would see value in this training.  As a result, the template was modified and caused minimal rework as a result.

## Phase 3 – *Formalize a Memorandum of Understanding between Parties*

Using a Memorandum of Understanding (MOU), agreements between WIA/TIRAP (National RA Sponsor) and ULCC (RTI provider) were formalized. While not legally binding, the MOU sets forth the definitions of Pre-Apprenticeship as defined by USDOL, outlines the services required of ULCC, and establishes an official partnership with WIA/TIRAP.  WIA/TIRAP views use of the MOU has the most effective, and flexible, way to prevent misunderstandings and potential disputes by clearly laying out the expectations and responsibilities of all parties to the agreement.

Following full execution of the MOU, the expectation is for the RTI provider to conduct monthly conference calls with WIA/TIRAP for the National Sponsor to provide up to date cohort information to interested TIRAP Participating Employers. An example of the MOU is provided in Appendix A.

# PROGRAM OVERVIEW

## CURRICULUM

The Broadband Fiber Optic curriculum is designed to develop skills in the theory and real world application of broadband telecommunication technology, including the use of hand tools, various cable installation techniques, the use of computerized equipment, safety regulations and customer service. This course is specially designed in two phases for both entry level and experienced individuals. Upon completion, participants are prepared to sit for the Certified Premise Cabling Technician and the Certified Fiber Optic Technician exams offered through the Fiber Optic Association (FOA).

## FOA CERTIFICATION

FOA is the international professional society for fiber optics. Members are certified fiber optic or premises cabling technicians.

The FOA CFOT® is the certification for most fiber optic technicians. It is based on the knowledge, skills  and is recommended for anyone involved in the design or management of fiber optic communications systems.

## PROGRAM SCHEDULE

Monday - Thursday; 6 - 9:30 p.m.

## CURRICULUM SCHEDULE
### AT-A-GLANCE
### WEEK 1
Basics
Networks
Cables
Lab: Hands-on Cables
Customer Service

### WEEK 2
Terminations & Splices
Lab: Terminations (Hands-on) Testing
Terminations
Resume Review*
Mock Interviews*

### WEEK 3
Splices
Testing - Basic
Testing - Insertion Loss
Financial Literacy*
Career Exposure

### WEEK 4
Lab: Hands-on Testing
Testing - OTDR Class
Lab: OTDR (Hands-on, simulator OK)
Site Visit/Tour - OnePath

### WEEK 5
Designing the cable plant
Lab: Designing the cable plant Installing the cable plant
Fiber Optic Career Fair*

| TIRAP Course # | TIRAP Apprenticeship Program (RTI Schedule) Core Skills | RTI Hours | | ULCC/FOA Course #s | ULCC/FOA Hours |
|---|---|---|---|---|---|
| 1 | Fiber Optic Fundamentals (Jargon) | 10 | ====> | 1 | 4 |
| 2 | Fiber Optic Communication Basics (Theory) | 10 | ====> | 2 | 8 |
| 3 | Types & Properties of Fiber Optic Cable | 10 | ====> | 3, 4 | 10 |
| 4 | Termination and Splicing | 20 | ====> | 5, 6, 7 | 17 |
| 5 | Hardware Testing | 15 | ====> | 8, 9 | 10 |
| 6 | Fiber Optic Network Design and Installation | 20 | ====> | 10, 11 | 10 |
| 7 | Introduction to Standards/ Codes | 10 | ====> | N/A | 0 |
| 8 | OSHA 10 | 10 | ====> | N/A | 0 |
| 9 | Hazard Assessment and Communication | 30 | ====> | N/A | 0 |
| 10 | RF Assessment & Exposure | 15 | ====> | N/A | 0 |
| 11 | First Aid/CPR | 10 | ====> | N/A | 0 |
| 12 | DOT Driver Rodeo | 10 | ====> | N/A | 0 |
| | | 170 | | | 59 |

| ULCC/FOA Course # | ULCC/FOA Certification Pre Apprenticeship Program Course Titles | Hours |
|---|---|---|
| 1 | Session I. Introduction to Fiber Optics, Demo | 4 |
| 2 | Session II.  Fiber Optic Communications Networks, Introduction to Testing, Networks | 8 |
| 3 | Session III, IV: Fiber & Cable | 4 |
| 4 | Session III, IV: Fiber & Cable, Hands on Lab | 6 |
| 5 | Session V, VI, VII: Terminations & Splices | 7 |
| 6 | Session V, VI, VII: Terminations Hands on Lab | 6 |
| 7 | Session V, VI, VII: Splicing Hands on Lab | 4 |
| 8 | Session VIII, IX: Testing | 5 |
| 9 | Session VIII, IX: Testing Testing & Troubleshooting Hands on Lab | 5 |
| 10 | Session X, XI, XII: Designing the Fiber Optic Cable Plant, Lab and Installation Planning the Fiber Optic Cable Plant | 4 |
| 11 | Plant, Lab and Installation Installing the Fiber Optic Cable Plant | 6 |
| | | 59 |

| OTHER Pre-Apprenticeship Class(es) -List | Credit Hours |
|---|---|
| Introduction to Fiber Optics - Basics, Networks, Cables | 8 |
| Hands-On LAB: Cables | 4 |
| Customer Service Certification* | 3 |
| Terminations & Splices | 5 |
| Hands-On LAB: Terminations | 5 |
| Testing Terminations | 2 |
| Resume Review and Mock Interviews* | 4 |
| Splices | 3 |
| Testing Basic | 3 |
| Testing - Insertion Loss | 3 |
| Finacial Literacy* | 2 |
| Career Exposure* | 4 |
| Hands-On LAB: Testing | 4 |
| Testing OTDR Class | 4 |
| Hands-On LAB: OTDR (simulator OK) | 4 |
| Site Visit - OnePath tour* | 4 |
| Designing the Cable Plant | 4 |
| Hands-On LAB: Designing the Cable Plant | 6 |
| Installing the Cable Plant | 4 |
| Fiber Career Fair* | 2 |
| | 78 |

*A dynamic team of instructors work with clients and prepare them with "core skills" and social mobilizing opportunities necessary for retention in their new careers.

# CORE SKILLS & CAREER EXPOSURE

Bridging skill gaps, ULCC has enhanced program offerings with additional services to fully "skill-up" clients. The core skills and career exposure activities (listed to the right) help ensure retention for employers and piece-of-mind for clients as they are empowered with industry culture and real-world experiences.

**Core Skills**
- Resume/Cover Letter Writing
- Mock Interviews with CAC Members
- Customer Service Certification
- Financial Literacy

**Career Exposure**
- Demo Days
- Site Visits - Simulations
- Corporate Advisory Counsel - Guest Speakers
- Fiber Specific Career Fair

*CAC Members can be a great value in planning site visits, guest speakers, resume workshops, etc.)



## Pre-Apprenticeship Program Impacts & Outcomes
### (Sept. 2017 - Sept. 2018)

**Enrolled: 94**
**Completed: 81**
**Earned FOA Certification: 79**
**Black/Latino: 94%**
**Females: 12**
**Vets: 6**
**Disabled: 2**



**21 ULCC Pre-Apprenticeship Graduates are now in apprenticeship positions.**

# EDUCATION + TRAINING + PLACEMENT = DIGNITY
# JONATHAN COUNTS



*"I will forever be grateful to the program at the Urban League for empowering me and giving me an opportunity to look at my sons with dignity. Going to work and knowing that I have a career path and an employer that invests in training gives me a sense of dignity everyday."*

Before applying for the Fiber Optic Broadband and Premise Cabling Program at the Urban League of Central Carolinas (ULCC), Jonathan Counts was working at a local fast food restaurant. With a goal to secure a stable career and support his three sons, Counts was ready to seize any opportunity that came his way. He was facing multiple barriers to employment having served two terms in prison, totaling 9 years. These barriers kept him in low wage positions with little to no opportunity of upward mobility. When speaking with an Urban League representative, Counts realized ULCC Fiber Program was the breakthrough he had been waiting for. He had a passion for technology and working with his hands so he was interested. He also considered how the starting salary would provide a living wage for him and his family.

Through membership with the ULCCs' Fiber Optic Corporate Advisory Council, Telecom companies are invited to engage with the program and program participants. This process encourages relationship building and partnerships. Most importantly it makes for a smooth transition from the pre-apprenticeship program to company on-boarding and enrollment in their registered apprenticeship program (RA). This interaction also allows for a close relationships between hiring managers, program graduates and ULCC support staff.

Counts worked hard in the program and engaged with employers in class and during ULCC industry specific career fairs. He also participated in mock interviews and resume prep sessions. Counts was hired on Nov. 7 by Mas Tek, Inc., a leading satellite installation company. For the past 2.5 years at Mas Tek Counts has been celebrated for his dependability and quality work. Managing a field-team of 7, Counts is ranked 6th in the company based on workload and quality metrics.
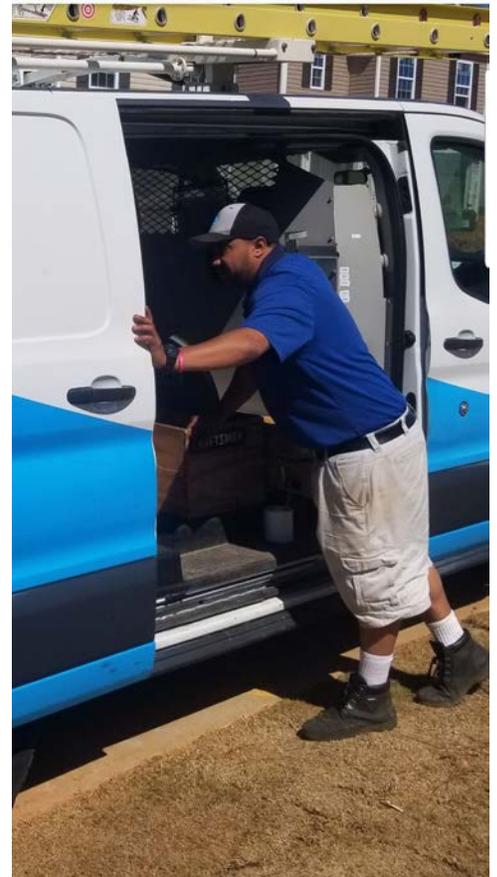
# FUNDING

A strong and data based strategic funding model is critical for thriving, long-term program implementation. At ULCC, the Fiber program was originally funded by CharlotteWorks, ULCCs' local workforce board, through a Workforce Reinvestment Act Grant. Over the course of the program's 10 years in operation, additional funding has been secured from private and public entities (i.e. Duke Energy, OnePath, City of Charlotte).

***Which local institutions are currently serving the target unemployed or underemployed demographic?***

The structure and makeup of local government; non-profit ecosystems and community based groups can greatly increase the potential to partner on workforce development grants. When partnering for funding, the goals and expectations of the RFP must be fully vetted to make sure it is in step with the core mission and initiatives of all parties. Partnering for initial funding can significantly increase potential to secure funding.

## WHICH PROGRAM ELEMENTS REQUIRE FUNDING?
- Instructor (per class or student)
- Classroom books & materials
  - Termination Kits
  - Fusion Splicer OTDR
  - SC & ST Connectors
  - Single and Multi Mode Fiber
- Venue (in some cases)
- Exam ($30 certification fee)

## POTENTIAL FUNDING PARTNERS
- School System
- Housing Authority
- Community Non-profit Networks (Goodwill, United Way, etc)
- Veteran Affairs Office
- City/County Offices
- Local workforce board
- Community College System
- Colleges and Universities (HBCUs)
- Police Department

## POTENTIAL PROGRAM FUNDERS - PUBLIC
*Public funding from a government entity requires a great deal of process mapping and structure. Managing data and success stories is critical for repeated funding.*
- US Department of Labor
- Apprenticeship
- YouthBuild
- State office of Apprenticeship
- Community College System
- Workforce Board
- City/County Offices
- US Department of Education

## POTENTIAL PROGRAM FUNDERS - PRIVATE
*When receiving funding from a private company it is important to clearly identify metrics of success. Communicating impact & outcomes and success stories via affiliate website, social media, or any other promotion is a critical component of repeated funding.*
- Banks - Community Reinvestment Act (CRA) Funds
- Grocery Retailers
- Utility Foundations
- Internet Service Providers

# FUNDING *continued*



## FEE FOR SERVICE

With a registered program, participants can use the pre-apprenticeship credit hours earned toward an RA upon acceptance and on-boarding. The nature of the applicable credit hours attracts those currently employed and working to get certified. This creates a fee for service opportunity. In training agreements or MOUs between training providers and companies, there is opportunity to build a "fee for service" model for company employees to enter the pre-apprenticeship program. This partnership is an excellent incentive for companies to utilize the program as their official training site.

## UNRESTRICTED FUNDING

Urban League affiliates are known for their celebratory events and fundraisers. These events are key opportunities to cultivate funding relationships through, story telling; testimonials; program impacts/outcomes and workforce advocacy. Core Urban League initiatives in workforce development and education directly correlate with many potential funders. A strong development process with comprehensive "ways to give" and providing sustained giving options are key to supplementing budgets and insuring unforeseen events or circumstances. Diversifying annual giving around programming is also a targeted development strategy for continued program funding.



How to Tie Fundraising Dollars to Impact

ELLIE BURKE
@Burke_Writes

## ELEMENTS OF A LOGIC MODEL

| INPUTS | ACTIVITIES | OUTPUTS | OUTCOMES | IMPACT |
|--------|-----------|---------|----------|--------|
| What an organization needs in order to do its work (facilities, staff, volunteers, grants, etc.) | The work that is done in the main programs of an organization | Units of production (number of hours of service delivered, number of clients served, etc.) | What happens to clients or customers (change in people or communities… short, medium and long term) | Ultimate result of achieving the mission |

https://www.classy.org/blog/tie-fundraising-dollars-impact/

# STRATEGIC PARTNERSHIPS

## FIBER OPTIC BROADBAND AND PREMISE CABLING PROGRAM

### CORPORATE ADVISORY COUNCIL (CAC)

The Fiber CAC is a catalyst for cultivating relationships with opportunity Partners (OPs) and maximizing the exposure of the program. CAC members share industry trends and best practices - they make suggestions to curriculum and provide career exposure for our clients. Through volunteering, CAC members support the program and provide supplemental instruction by guest speaking, hosting demo days, site visits, mock interviews, resume review, etc

### SHARED GOAL

To develop, hire and retain qualified, diverse technical talent.

### CAC MEMBER VALUE PROPOSITION

- Participate in specialized technical training and talent development
- Efficiently select and hire the best prepared to meet immediate job requirements
- Establish collaborative six month
- Retention and performance strategy

## CHARLOTTE'S DIGITAL INCLUSION ALLIANCE

Charlotte's Digital Inclusion Alliance (CDIA) endeavors to reduce the digital divide in Mecklenburg County from 19% to 9% by 2026 Focus areas of the work include: Access, Technology, Digital Literacy, Standards and Policy, Advocacy, and Opportunity.

The alliance is comprised of several long-standing community stakeholders and organization, individuals and entities who have provided a range of social services to residents over several decades and have been diligent in their work to address inequality, poverty, and digital access across the county.

## TURNING POINT ACADEMY

Through a school improvement grant, Turning Point Academy is partnering with the ULCC to provide a fiber pre-apprenticeship program to high school students.

Turning Point is a "Redirection" Program designed to meet the educational needs of "at-risk" students through therapeutic intervention services, behavior and academic prevention and intervention programs.

**All students must meet the following program goals:**

- Improvement of Student Behavior
- Improvement of Student Academics
- Improvement of Student Attendance
- Improvement of Student Attitude

*Programming at Turning Point Academy will begin Sept. 17, 2018.*

*Previous Youth Fiber Optic Broadband Program at Myers Park High School (2016 - 2017)*

# RECUITING



**TARGETED RECRUITING STRATEGY**

With a pre-apprenticeship program, affiliates should intentionally build marketing and communications strategy to target identified underserved groups. NUL hosts varied webinars and conference calls throughout the year, featuring apprenticeship intermediaries representing, women, veterans, etc. These seminars provide great insight to the nuance of the opportunity that awaits underserved groups in apprenticeship; thus helping guide recruiting practices for traditionally underrepresented groups.







**EVENTS**

The implementation of targeted recruiting events is a key element to the organization's marketing recruitment strategy. These events are an opportunity for potential clients to hear directly from program instructors about programs offered. Potential clients are able to learn and ask questions about industry trades and the program intake process. This interaction has proven to empower clients (who typically feel insecure about industry knowledge, their barriers to employment, etc.) to talk with experts and take the step to enroll. This is also a way to continually engage with the career-seeking community. The following are potential events that support not only recruiting for the class but they also help maintain full cohorts with a waiting or weight list.

- Program Information Sessions
- Career Fairs
- Community Fairs and Expos

# RECRUITING - INTAKE/ENROLLMENT

## MINIMUM APPLICANT QUALIFICATIONS
To be considered for Pre-Apprenticeship Program, each applicant must meet the following requirements:

**Prerequisites for participation include:**
- A personal interview with ULCCs' Site Coordinator
- Test for Adult Basic Education (TABE); and
- Background check
- Valid ID or License
- High School Diploma or Equivalent

**NOTE:** The qualifications for applying to the program must be discernible through a fair, objective screening process.

## ENROLLMENT REQUIREMENTS
- 18 years or older
- Valid NC Drivers License, NC State ID (DL Required for FOA, HVAC & CAST)
- Social Security Card
- Proof of Education (Transcripts, HS Diploma, GED certificate, etc.)
- Proof of Address (Utility Bill, Magazine Subscription, etc.)
- Proof of Income (Check Stubs, Job Letter, etc.)

## INTAKE CHECKLIST
- Eligible Participant Program Checklist
- Application
- RISE (FNS Referral Form)
- Unique Background Solutions (Background Check Authorization)
- Employment Verification Form
- Information Technology/Disclosure Agreement
- Program and Building Agreement

### SPECIAL INTAKE Example
(Scholarship participants)
An income attestation form must be filled out if client is claiming $0 as their household income. Attestation must be notarized.

### TABE Testing
A TABE test must be administered with every intake packet.

## NATIONAL URBAN APPRENTICESHIP JOB PROGRAM
### INTAKE FORM

# REPORTING AND DATA MANAGEMENT

The reporting frequency as a registered program is monthly, quarterly and annually. There are various data points that are tracked and measured listed below. These points directly correlate with industry needs and foreshadowed trends. It is important that data management roles and responsibilities are clearly mapped to contract obligations. Compliance with government standards, employers and funders are critical to programming vitality.

### APPRENTICE DATA INPUT SPREADSHEET
### (DATA TRACKED MONTHLY)
- NAME
- Date of Birth
- Race
- Zip Code
- Gender
- Disability Status
- Veteran Status
- Program Type
- Program Entry Date
- Expected Completion Date
- Program Completed?
- Job Title
- Comments

### MONTHLY REPORTING
### (There are templates for monthly, quarterly and annual reports.)
- # Of Opportunity Partners
- # Of In-Person Trainings and Presentations Completed
- # Of Webinars Completed
- Upcoming Events
- Completed Events and Trainings
- Resource Development
- Opportunity Partnerships
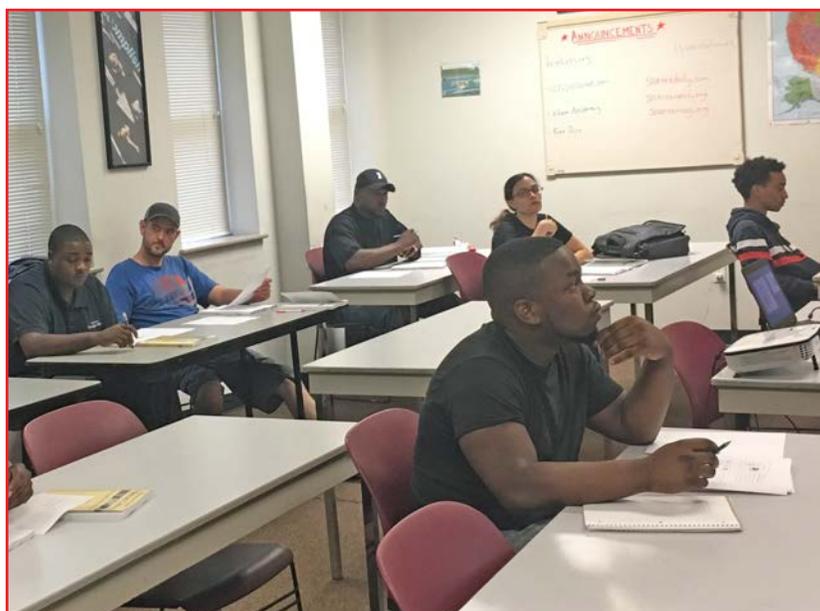


*ULCC Fiber Optic Pre-Apprentice Clients*
*August 6th - September 14th, 2018*



Apprenticeship Registration Application
Facility: The Urban League of Central Carolinas
Program Number: 29027

# SMEs - SUBJECT MATTER EXPERTS

**MAYA C. NORVEL**

Director of Marketing and Communications

Urban League of Central Carolinas

740 West 5th Street, Charlotte, NC 28202

maya.norvel@urbanleaguecc.org

(757) 870-6523

**BRANDI PRAY**

Manager, Workforce Development

National Urban League

80 Pine Street, New York, New York 10005

Bpray@nul.org

(212) 558-5375

**DEB BENNETT**

TIRAP Director of Apprenticeship

Wireless Infrastructure Association

2111 Wilson Boulevard, Suite 210, Arlington, VA 22201

Deb.Bennett@wia.org

(913) 707-0528