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**North Carolina Pre Apprenticeship Standards for PTE 114**

**Engineering Technologies**

**Sponsored By:**

**North Carolina Community College System (NCCCS)**

**200 West Jones Street**

**Raleigh, NC**

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| --- | --- |
| AUTOMATED EQUIPMENT ENGINEER-TECH (0821) | 49-9044.00 |
| BIOMEDICAL EQUIPMENT TECHNICIAN (0888) | 49-9062.00 |
| DRAFTER, ARCHITECTURAL (0126) | 17-3011.01 |
| DRAFTER, MECHANICAL (0136) | 17-3013.00 |
| ELECTRICAL TECHNICIAN (0155) | 17-3023.03 |
| ELECTRONICS TECHNICIAN (0169) | 17-3023.01 |
| ENERGY SPECIALIST (2005R1-HY) | 13-1199.01 |
| GEOSPATIAL SPECIALIST (1062CB) | 17-1021.00 |
| INDUSTRIAL ENGINEERING TECHNICIAN (0259) | 17-3026.00 |
| MECHANICAL ENGINEERING TECHNICIAN (0777) | 17-3027.00 |
| MECHATRONICS TECHNICIAN (2014) | 49-2094.00 |
| TELECOMMUNICATIONS TECHNICIAN (Alternate Title: Broadband Technician) (0618) | 49-2022.00 |

*I agree and understand the contents of this document:*

Program Supervisor/ Education System or other Entity Date

**Program Number:**

**Effective Date of Registration:**

**Effective Date of Revision:**

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# Definitions, Terms and Components

**Pre Apprentice** – an individual or student who is participating in an approved Pre Apprenticeship program to learn skills for possible entry into Registered Apprenticeship upon completion of the program.

**Pre Apprenticeship Program** – a program that teaches basic technical and job-readiness skills for a designated apprenticeable occupation or occupational sector leading to possible entry into Registered Apprenticeship training. Pre apprenticeship normally features a classroom and/or lab setting, but may also involve work-site visits, job-shadowing, or other activities outside the program facility, to provide exposure to the work environment for the targeted occupation(s). The model for pre apprenticeship training varies depending on the targeted group recruited for training such as youth or adults. Successful completion of an approved Pre Apprenticeship program will likely enhance the probability of transition to registered apprenticeship or an opportunity for employment in the industry above an entry level position

**Program Sponsor** – **NCCCS**

**Registration Agency** – The North Carolina Community College System Office, ApprenticeshipNC, 200 West Jones St., Raleigh, NC 27603.

**Standards** – Shall mean this entire document, including any attachments.

**Pre Apprenticeship Agreement** – Each Apprentice under the age of eighteen (18) and authorized official of the Program Sponsor, Education System or other Entity must sign a Pre Apprenticeship Agreement that is provided by the Registration Agency. The purpose of the Pre Apprenticeship Agreement is to outline the terms and conditions of the Pre Apprenticeship Program and the responsibilities of all parties to the Pre Apprenticeship Agreement.

**Pre Apprentice Wage** – Wages are paid to Pre Apprentices are paid for any work performed on the job for an employer.

**Amendments or Modifications** – Programs can be modified as needed. The Program Sponsor, Education System or other entity will continually monitor the Pre Apprenticeship Program for quality, efficiency, and the Program’s effectiveness in meeting industry needs.

**Cancellation** – Thetermination of the registration of a program at the request of the sponsor, education system or other entity. Written notification of the action to the Registration Agency is needed for the cancellation of either the Program or the pre apprentice.

**Competency** – The attainment of manual, mechanical or technical skills and knowledge, as specified by occupational standards and demonstrated by appropriate written and hands-on proficiency measurements.

**Equal Employment Opportunity Pledge** – A statement of commitment that the Pre Apprenticeship Program will be conducted in conformity with all applicable Federal, State and local EEO/Affirmative Action laws, regulations, rules and adopted plans.

**Job Related Education (JRE)** – An organized and systematic form of instruction designed to provide the Apprentice with knowledge of the theoretical and technical subjects related to the occupation. Such instruction may be given in a classroom, through occupation or industrial courses, by correspondence courses of equivalent value, through electronic media, or through other forms of self-study approved by the Registration Agency. No wages are required to be paid during the job related education.

**On-the-Job Learning (formerly called On-the-Job Training or OJT)** – A detailed outline of the work functions, tasks, or competencies that each Pre Apprentice will perform, with the number of hours of training for each task. On–the-Job learning can be delivered and measured through a traditional time-based approach; a competency-based approach premised on the attainment of demonstrated, observable and measurable competencies; or through a “hybrid” approach which is a combination of time-based parameters and the meeting of articulated performance-based competencies. Each occupation is designated according to the method of training.

**Registration** – The recognition by the Director and the recording with the Registration Agency of a Pre Apprenticeship Program or Pre Apprenticeship Agreement signifying that the program or agreement complies with the rules, requirements, criteria, and standards of the N.C. Apprenticeship Act (Chapter 115D of the N.C. General Statutes) and the administrative rules (Title 13, Subchapter 14B of the N.C. Administrative Code).

**Revision** – Any substantive modification or change of the Standards of Apprenticeship or of an Apprenticeship Agreement.

**Standards of Pre Apprenticeship** – Shall mean this entire document, including any attachments.

**State Approving Agency** – The State Approving Agency for Pre Apprenticeship, Apprenticeship and OJT Training programs is the North Carolina Community College System Office, ApprenticeshipNC.

**NCCCS Pre Apprenticeship Program**

# *Section 1 – Program Goals and Purpose*

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This course introduces fundamental employment core skillsets required to effectively enter the construction workforce and/or a registered apprenticeship and may also serve as a component of a pre-apprenticeship. Topics include workplace safety, communication skills, industry overview, tools and equipment, computation and financial literacy, materials, employability skills, personal health, career exploration and pathways including apprenticeship, job preparation and required job skills, and site visits.  Upon completion, students should be able to explain how to locate and engage employers, present themselves in a professional manner, perform basic on-the-job skills, pursue necessary job-specific training and/or certification, and enter a construction career with the knowledge required to be successfully employed.

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.

It is the desire of **NCCCS** to cooperate with the N.C. Community College System Office in the training of Pre Apprentices and to assure the Pre Apprentices that, if they diligently apply themselves, they will be afforded an opportunity to become skilled professionals in an occupation.

# *Section 2 – Minimum Applicant Qualifications*

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To be considered for Pre Apprenticeship Program, each applicant must meet the following requirements: (list minimum qualifications below)

1. Age 16

2. Student must qualify to enter a College and Career Promise CTE pathway at their local community college

Or

3. Qualify to enter a community college CTE program of study

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

# *Section 3 – Selection Process*

Pre-apprentices must enroll in the local community college and meet enrollment requirements for that college

Students who meet the minimum requirements at the local community college will be selected

# *Section 4 – Program Outline/Content*

**Module 1:  Safety**

**Module 2:  Communication Skills**

**Module 3:  Industry Overview**

**Module 4:  Computation and Financial Literacy**

**Module 5:  Employability Skills**

**Module 6:  Personal Health**

**Module 7:  Career Exploration and Pathways including Apprenticeship**

**Module 8:  Job Preparation and Required Job Skills**

**Module 9:  Industry and Site Visits**

# *Section 5 – Evaluation Criteria*

List or explain the evaluation method(s) that will be used to determine satisfactory progress of the Pre Apprentice. What are the criteria for completion of the Pre Apprenticeship Program?

Student must pass the course with a C or higher to receive the pre-apprenticeship credential. \* for consideration for apprenticeship placement participating partners may determine the cut-off grade for students to be selected.

Evaluation methods will include, but not limited to:

1. Documented participation in Module 9: Industry and Site Visits

2. Pass the final exam with a C or higher

3. Pass the Safety Module 1

4. Other credentials or certificates required by local community colleges for this course

# *Section 6 – Pre Apprenticeship Agreement*

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1. Each Pre Apprentice, under the age of eighteen (18), shall be covered by a written Pre Apprenticeship Agreement signed by the Program Sponsor, Education System or other Entity and the Pre Apprentice. *If the Pre Apprentice is under 18 years of age, the Pre Apprentice’s parent or legal guardian must also sign.* The Pre Apprenticeship Agreement shall be forwarded to the Registration Agency.

# *Section 7 – Duties and Responsibilities of the Program Sponsor, Education System or other Entity*

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.

# *Section 8 – Equal Employment Opportunity*

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**Pledge:** "North Carolina Community College System will not discriminate against applicants or trainees based on race, color, religion, national origin, sex (including pregnancy and gender identity), sexual orientation, genetic information, or because they are an individual with a disability or a 40-year-old or older. North Carolina Community College System will take affirmative action to provide equal opportunity in Pre Apprenticeship and will operate the Pre Apprenticeship program as required under Title 29 of the Code of Federal Regulations, part 30."

All Pre Apprentices will be provided the same training and instruction and will in all respects be treated the same during the program.

The Program Sponsor shall not discriminate against a qualified individual with a disability because of the disability of such individual. The Program Sponsor will provide reasonable accommodation to individuals as required by federal, state, or local disability law.

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# *Section 9– Safety and Health Training*

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**NCCCS** shall instruct the Pre Apprentice in safe and healthful work practices and shall ensure that the Pre Apprentice is training in facilities and other environments that are in compliance with the occupational safety and health regulations enforced by the N.C. Department of Labor, Occupational Safety and Health Division.

# *Section 10 – Amendments or Modifications*

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1. These Standards may be revised at any time by the Program Sponsor by submitting a written request to the Registration Agency.
2. All revisions must be approved by the Registration Agency prior to implementation.

# *Section 11– Identification of the Registration Agency*

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The North Carolina Community College System Office, ApprenticeshipNC promotes, develops, registers and assists in the operation of registered Apprenticeship and other training programs. The goal of ApprenticeshipNC is to benefit the State's workers, employers, and economic development.

# *Section 12 – Program Registration/Cancellation*

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1. These Standards will be submitted to the Registration Agency for approval. Such approval will be required before implementation of the Pre Apprenticeship Program.
2. Program Sponsor reserves the right to discontinue at any time the Program set forth herein. The Registration Agency shall be notified promptly of any decision to cancel the Pre Apprenticeship Program.

# *Section 13 – Conformance with Federal Laws and Regulations*

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No Section of these Standards shall be construed as permitting violation of any Federal or State Law or Regulation.

# *Section 14– Program Sponsor, Education System of other Entity Contact Information*

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The following individual(s) are designated as the program administrator(s) or partners and will also be the appropriate individual(s) who has the authority under this program to receive, process, and make disposition of complaints:

**Name:**

**Address:**

**Telephone Number:**

**Email Address**

**Company Partners:**

**Name**

**Contact Information**

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

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# Attachments

**Attachment I: Job Training Outline, Education Outline, and Wage Progression Schedule**

**IA – Automated Equipment Engineer Tech**

1. On-the-Job Learning- None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IB – Biomedical Equipment Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IC – Drafter, Architectural**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**ID – Drafter, Mechanical**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IE – Electrical Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IF – Electronics Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IG – Energy Specialist**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IH – Geospatial Specialist**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**II- Industrial Engineer Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IJ – Mechanical Engineer Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**IK – Telecommunications Technician**

1. On-the-Job Learning-None
2. PTE 114- Engineering Technology
3. Wage Progression NO WAGE

**Attachment 1:**

**Module 1:  Safety**

* Explains who OSHA is, what they do, including OSHA 10 and 30 training
* Explains what MSDSs are, where they are located, and who they serve to protect
* Identifies what are the most likely accidents to occur on the job or at home
* Recognizes what we should do if we think someone is suffering from a heart attack or other life-threatening ailment or accident
* Identifies four safety procedures common to the workplace
* Identifies four factors that can lead to personal stress
* Lists the types of personal protective equipment (PPE) that are required for various jobs within the IT industry and explains their operation and purpose

**Module 2:  Communication Skills**

* Names the different forms of communication used in the workplace and how to use them effectively
* Explains the National Career Readiness Certificate (NCRC)
* Explains why the ability to locate and manipulate workplace documentation is important to one’s professional interest
* In the context of the NCRC, describes what is meant by graphic literacy and why it’s important
* Develops and delivers a presentation
* Creates a letter of introduction in response to a job opening posted by a fictitious employer
* Demonstrates an understanding of word-processing, presentation software, and personal computer usage.

**Module 3:  Industry Overview**

* Names five major industries within this Career Cluster
* Using the NC Career Clusters Guide, provides the definition of new or emerging occupations for various Pathways within this Cluster
* Describes the O-Net and the U.S. BLS Occupational Outlook Handbook
* Explains globalization and how it affects various industries
* Lists the types of jobs most common to the ITindustry
* Explains what jobs are personally preferred and why
* Lists several IT industry associations and explains their purpose

**Module 4:  Computation and Financial Literacy**

* Explains the importance of creating savings and checking accounts and what they are used for
* Develops an example personal budget based on $37,000 annual income.
* Explains the National Career Readiness Certificate and why the ability to use math, understand graphical information, and financial literacy is important to one’s career and personal welfare
* Explain credit, credit score, and the challenges and benefits associated with credit cards
* Performs a Reality Check to determine income required to support lifestyle

**Module 5:  Employability Skills**

* Displays awareness and respect for diverse cultures and norms
* Demonstrates good interpersonal communication skills
* Accepts responsibility for personal actions
* Demonstrates personal honesty and integrity
* Admits mistakes and proactively takes steps to rectify them
* Demonstrates professional behavior
* Implements a time management system
* Exhibits a collaborative relationship when working with others
* Demonstrates motivation and reliability

**Module 6:  Personal Health**

* Explains the importance of personal health and fitness
* Completes a health assessment
* Establishes a plan to monitor and regulate one’s personal health and mental wellbeing
* Lists sources of anxiety and how to mitigate them
* Identifies healthy and unhealthy diets
* Explains physical fitness in terms as a prerequisite requirement to specific jobs and overall in terms of personal wellbeing

**Module 7:  Career Exploration and Pathways including Apprenticeship**

* Identifies Career Clusters and the Pathways listed under Architecture and construction
* Identifies the various careers, skills, and educational requirements unique to different career pathway occupations
* Completes a career inventory interest assessment
* Lists the various professional licensures or industry certifications popular to various IT occupations
* Explains Registered Apprenticeship, pre-apprenticeship, and career pathways
* Develops career goals and a plan to achieve them
* Identifies local, regional, state, and national IT employers
* Demonstrates an understanding of industry and career trends

**Module 8:  Job Preparation and Required Job Skills**

* Develops a professional appearing resume
* Completes a mock job application
* Names four important things to do to be prepared for an interview
* Defines the knowledge, skills and abilities required for a particular job
* Completes a mock job interview
* Locates and defines the O-NET
* Locates and defines the U.S. DOL Occupational Handbook
* Demonstrates an understanding of the Knowledge, Skills, and Abilities required of various IT professions

**Module 9:  Industry and Site Visits**

* Explains the importance of understanding businesses and industries that are located within the community before entering an education program
* Explains the relevance of making a good first impression during a job interview and why it’s important to know information about the employer
* Identifies and visits local IT employers
* Summarizes a site visit and explains what was learned about the company and its employees

**IIC – Participating Employers**