

Career and Technical Education Adapted CTE Course Blueprint of Essential Standards

Trade and Industrial Education

7631 Electronics I

Public Schools of North Carolina
State Board of Education • Department of Public Instruction
Academic Services and Instructional Support
Division of Career and Technical Education
[David Barbour](#), Project Director

Raleigh, North Carolina
Summer 2012

Contact Tandleducation@dpi.nc.gov for more information

Special thanks to the following educators who developed this Adapted CTE Course Blueprint.

Name	Company
Name	Company

This Adapted CTE Course Blueprint was developed using materials from the Electronic Technician Association- International (ETA-i).

Adapted CTE Course Blueprint

Essential standards are big, powerful ideas that are necessary and essential for students to know to be successful in a course. Essential standards identify the appropriate verb and cognitive process intended for the student to accomplish. Essential standards provide value throughout a student's career, in other courses, and translate to the next level of education or world of work.

This document lays out the essential standards for successfully completing the Electronics Modules Program (EM5) based on the Electronics Technician Association – International (ETA-i) Associate level certification, divided into five modules. The purpose of the EM5 program is to align with a growing portion of the electronics education industry that is charged with providing electronics training that does not include the total content of traditional Basic Electronics courses. In some instances, technical institutions are asked to provide training in only certain areas of electronics. The process better aligns for companies that need only narrower skills and knowledge in place of what would be expected of a complete Associate Certified Electronics Technician (CETa). Companies can employ workers who have required knowledge and skills for only the technology and processes they currently use at that company. To provide a path for the technician leading to the CETa credential, the five BASIC modules of the CETa can be acquired individually. Once a technician attains all five module certifications, ETA-i will issue an official CETa certification (all five must be passed within a two-year period). The technician may also choose to gain only those modules needed in order to be employable. The Electronics Modules are also a great retention tool. This course covers the following EM1 – Associate C.E.T. - DC BASICS. The essential standards use Revised Bloom's Taxonomy (RBT) category verbs (remember, understand, apply, analyze, evaluate, create) that reflect the overall intended cognitive outcome of the essential standards. Each essential standard and indicator reflects the intended level of learning through two dimensions. The Knowledge Dimension is represented with letters A-C, and the Cognitive Process Dimension by numbers 1-6.

The Adapted CTE Course Blueprint includes units of instruction, essential standard(s) for each unit, and the specific indicators aligned with the ETA-i CETa Certification. Also included are the relative weights of the units and essential standards within the course. The industry certification reflected in this document is ETA-I CETa Certification.

This document will help teachers plan for curriculum delivery for the year, prepare daily lesson plans, and construct valid formative, benchmark, and summative assessments. Curriculum for this course is not provided by NCDPI. A number of educational curriculum providers have commercially available curriculum and assessments for this course.

For additional information about this blueprint, contact the Division of Career and Technical Education, North Carolina Department of Public Instruction, 6360 Mail Service Center, Raleigh, North Carolina 27699-6360.

Reference: Anderson, Lorin W. (Ed.), Krathwohl, David R. (Ed.), et al., *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, Addison Wesley Longman, Inc., New York, 2001.

Interpretation of Columns on the NCDPI Adapted CTE Course Blueprint

No.	1	2	3	4
Heading	Essential Std #	Unit Titles, Essential Standards, and Indicators	Course Weight	RBT Designation
Column information	Unique course identifier and essential standard number.	Statements of unit titles, essential standards per unit, and specific indicators per essential standard. If applicable, includes % for each indicator.	Shows the relative importance of each unit and essential standard. Course weight is used to help determine the percentage of total class time to be spent on each essential standard.	Classification of outcome behavior in essential standards and indicators in Dimensions according to the Revised Bloom's Taxonomy. Cognitive Process Dimension: 1 Remember 2 Understand 3 Apply 4 Analyze 5 Evaluate 6 Create Knowledge Dimension: A Factual Knowledge B Conceptual Knowledge C Procedural Knowledge

Career and Technical Education conducts all activities and procedures without regard to race, color, creed, national origin, gender, or disability. The responsibility to adhere to safety standards and best professional practices is the duty of the practitioners, teachers, students, and/or others who apply the contents of this document.

Career and Technical Student Organizations (CTSO) are an integral part of this curriculum. CTSOs are strategies used to teach course content, develop leadership, citizenship, responsibility, and proficiencies related to workplace needs.

Adapted CTE Course Blueprint of Essential Standards
7631 Electronics I
 (Recommended hours of instruction: 135 to 150)

Essential Std #	Units, Essential Standards, and Indicators (The Learner will be able to:)	Course Weight	RBT Designation
1	2	3	4
	Total Course Weight	100%	
1.00	Understand basic electrical theory and magnetism.	15%	B2
2.00	Understand basic electrical safety, the use of electronic equipment, and electronic components.	20%	B2
3.00	Apply procedures used in ohms law and other basic mathematics for Electronics.	23%	C3
4.00	Understand electronic measurements used in DC Electronics.	10%	B2
5.00	Apply procedures used in series, parallel, and series/parallel circuits.	32%	C3

DRAFT