

**Career and Technical Education
Adapted CTE Course Blueprint
of
Essential Standards**

Trade and Industrial Education

IM34 Electronics IV

Public Schools of North Carolina
State Board of Education • Department of Public Instruction
Academic Services and Instructional Support
Division of Career and Technical Education
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Raleigh, North Carolina
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**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 Electronics IV which aligns with the Electronic Technician Association – International (ETA-i) standards for Analog electronics industry certifications. The particular certifications covered by this course are as follows EM3 – Associate C.E.T. – ANALOG BASICS. ETA-I, the certifying organization, provides the standard to use in preparation for taking this exam. Industry curriculum providers provide the post-assessments aligned with these standards. 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 indicators written by ETA-i. 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 Electronics II Course Blueprint includes units of instruction, essential standard(s) for each unit, and the specific indicators aligned with the ETA-I certification. Also included are the relative weights of the units and essential standards within the course.

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. Industry curriculum providers reviewed and approved for this course collaborated with the North Carolina Department of Public Instruction (NCDPI) to develop a valid and reliable test item bank used to produce a secure postassessment administered by NCDPI. Assessment for this course is written at the level of the **ESSENTIAL STANDARD** and assesses the intended outcome of the sum of its indicators. The following industry curriculum providers participated in the development of the secure test item bank. To assure alignment of the postassessment with the credential, the following curriculum providers have been reviewed and determined to provide curriculum to cover the essential standards. See appendix A for a list of curriculum providers.

For additional information about this blueprint, contact the Division of Career and Technical Education, North Carolina Department of Public Instruction, 6361 Mail Service Center, Raleigh, North Carolina 27699-6361.

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. CTOS are strategies used to teach course content, develop leadership, citizenship, responsibility, and proficiencies related to workplace needs.

**Adapted CTE Course Blueprint of Essential
Standards **IM34 Electronics IV****
(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%	
A	ANALOG BASICS (EM3)	100%	
1.00	Understand Diodes.	8%	B2
2.00	Apply procedures used with Transistors and Thyristors.	20%	C3
3.00	Understand Integrated Circuits, Optoelectronic Devices, and Power Supplies and Test Equipment & Measurements used in Analog.	24%	B2
4.00	Apply Mathematics and Formulas used in Analog.	8%	C3
5.00	Understand Amplifiers, Operational Amplifiers, and Oscillators.	20%	B2
6.00	Understand Filters and Wave-shaping Circuits.	20%	B2